DRINKING WATER
SOURCE PROTECTION PLAN

FOR

TONY M MINE
WELL #2

JULY 2007

Jones & DeMille Engineering

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EXECUTIVE SUMMARY

Denison Mines (USA) Corp. (DUSA) plans to reopen the Tony M Mine, an underground uranium mine that was previously operated by Plateau Resources. The mine was developed in 1977 and operated into the early 1980s when it was placed on standby due to low uranium prices. The Tony M Mine was reclaimed in stages between 1995 and 2003.

As shown on Figure 2, Appendix A, the Tony M Mine is situated on the south flank of the Henry Mountains in Garfield County, Utah. The mine is located approximately 50 miles south of Hanksville and 15 miles north of Bullfrog Marina. The main access road to the mine is via six miles of all-weather county road proceeding 1.5 miles west from Utah Highway 276 and then 4.5 miles north through Shitamaring Canyon.

As part of recommencing mining operations the Tony M. Mine Well #2 will be restored for use as the drinking and culinary water source. The Tony M. Mine Well #2 was used as the sole source for the Plateau Resources Public Water System between 1980 and 1984. In 1984 the water system was declassified as a Public Water System and has had minimal use from 1984 to the present. A request has been made to the Utah Division of Drinking Water to reestablish this system as a Public Water System.

The purpose of this report is to define well protection zones, define existing potential contamination sources (PCS) and implement a plan to manage them and possible future PCS. The Tony M. Mine water system is a public community system.

1.0 INTRODUCTION

This report is submitted to meet the Source Protection Plan (SPP) Report requirements of Administrative Ruling R309-600. The owner, DUSA, will maintain the water system for the Tony M. Mine's drinking water needs.

1.1 **System Information**:
Name: Tony M. Mine Water System
Address: Ticaboo, UT 84533
Phone Number: 303-628-7798
Status: Existing, public, non-transient, non-community

1.2 **Source information**:
Name: Tony M. Mine Well #2
Source Number: 01
Location: 6.0 miles north of Ticaboo, Utah (37^{o} 45' 26" N Latitude 110^{o} 42' 06" W Longitude) Figure 2, Appendix A is a vicinity map showing the location of Tony M. Mine Well #2
Type: Well
Status: Existing
Number of Sources: 1

1.3 **Designated Person:**
Name: Christy Woodward
Address: 1050 17th Street, Suite 950, Denver, Colorado 80265
Phone: 303-389-4136

2.0 DELINEATION REPORT

Because of the remoteness of the well, the limited potential for future development, and the limited number of existing PCS, the Drinking Water Source Protection (DWSP) Management Area is the area outside the 100-foot radius and within the two-mile radius of a well. No land within the two mile radius has been excluded from the management area.

2.1 Geologic Data

According to the U.S. Department of Agriculture, Soil Conservation Service (USDA SCS) the Tony M. Mine Well #2 is located in Badland-rock outcrop complex. The Badland-rock outcrop complex is defined as exhibiting a composition of approximately 70 percent badland, 15 percent rock outcrop, and 15 percent soils. The soils in this map unit are recognized as approximately five percent Chipeta silty clay, five percent Moenkopie fine sandy loam, and five percent Neskahi Series fine sandy loam. These soils are found primarily in drainageways. Badlands are described as steep or very steep, commonly nonstony, barren land

dissected by many intermittent drainage channels. Badland landforms are most common in semiarid and arid regions where streams are entrenched in soft geologic material. Runoff potential is very high, and geologic erosion is active.

Formations which crop out or are present in the subsurface within the project area include, in descending order, the Morrison, Summerville, Entrada Sandstone, Carmel, and Navajo Sandstone. The Morrison Formation in this area consists of two members, the Salt Wash Sandstone Member and the overlying Brushy Basin Member. The Brushy Basin Member is composed of bentonitic claystone interbedded with minor siltstone and sandstone beds. The Salt Wash Member, which is the major uranium host formation, consists predominately of sandstone beds interbedded with minor siltstone and claystone beds. The sediments within the Salt Wash Member are sulfide-poor and therefore are not likely to produce acid rock drainage (ARD). The Salt Wash Member contains an unconfined aquifer and has a downward hydraulic gradient. The Salt Wash Member is believed to pinch out near the center of the mine property, and the Salt Wash Member is unsaturated southeast of this point (Figure 3 Geologic Cross Section Attachment G-1 of Appendix A). The Summerville Formation is composed of alternative thin even beds of marine sandstones, siltstones, mudstones, gypsum, and shales and underlies the Salt Wash Member (Jackson and Noller, 1991). Finally, the Entrada Sandstone Formation is very fine-grained eolian quartz sandstone. The rock hosting the ore body is the Salt Wash Member, which is sandstone and therefore is not likely to produce acid rock drainage (ARD).

Three geologic formations in the area of the Tony M Mine contain underground fresh water aquifers: 1) the Salt Wash Member of the Morrison Formation, 2) the Entrada Sandstone, and 3) the Page/Navajo Sandstone.

The Salt Wash Member is an unconfined aquifer overlain by the Brushy Basin Member, and underlain by the Summerville Formation. Geologic formations were identified on the geologic map of the area by Jackson and Noller (1991). As indicated by the geologic map, the Summerville Formation is about 180 feet thick and comprised of alternative thin even beds of marine sandstones, siltstones, mudstones, and shales (Jackson and Noller, 1991).

According to the well log in the report of well driller for well D-35-11-02cba-1 (http://www.waterrights.utah.gov/wellinfo), the Entrada is 680 feet thick near the Frank M mine portal in Section 2. The Entrada Formation is composed of very fine grained eolian quartz sandstone (Jackson and Noller, 1991). The Entrada aquifer is under unconfined water table conditions as indicated by a groundwater depth measured 60

feet below the top of the Entrada Sandstone in well D-35-11-16-cdd-1 in Section 16 (http://www.waterrights.utah.gov/wellinfo). As a result, the Entrada aquifer has a downward hydraulic gradient and is not confined by the overlying Summerville Formation.

All nearby groundwater wells researched were drilled to reach the Navajo Sandstone groundwater aquifer. The water in the Page/Navajo aquifer is considered Class 1A pristine quality ground water typically having concentrations less than 500 mg/L in total dissolved solids. The Navajo aquifer system is confined by the Carmel Formation as indicated by hundreds of feet of hydraulic head measured in Plateau Resources Limited wells D-35-11-02cba-1 near the Tony M Portal and D-36-11-03vvc-1 at the inactive Shootaring Canyon Mill. As a result, the Navajo aquifer is protected from contamination by a strong upward hydraulic gradient and an effective, heterogeneous aquitard.

2.2 Well Construction Data

No well drillers log for this well is available. All well construction data available was obtained from on site observations and data recorded during a constant rate pumping test performed on March 24, 2007. The well casing is 6" steel pipe and the pump is a submersible 75 hp pump. The casing has been grouted at the surface, but the depth of the grout is unknown. Static water level in the well is 155 feet below the ground surface. The complete drawdown test is included in Appendix C.

2.3 Aquifer Data

The Utah State Water Plan for the West Colorado River Basin reports that this well is within the boundaries of the Lower Dirty Devil River Groundwater Basin. From studies conducted and reported by the USGS, it has been determined that the Navajo Sandstone in this basin contains fresh water over large areas (DNR 2000). A chemical analysis of the well was performed to determine the water quality. The results of this analysis are included in Appendix C.

Included in Appendix C is a table that shows the estimated storage characteristics of Navajo Sandstone in the Lower Dirty Devil River Groundwater Basin (DNR 2000).

2.4 Hydrogeologic Methods and Calculations

Because of the remoteness of the well location and the limited number of existing or possible proposed PCS, the Optional Two-Mile Radius Delineation Procedure was used to determine the Source Protection Zones.

2.5 Drinking Water Source Protection Zone Map (Figure 3, Appendix A)

The Optional Two-Mile Radius Delineation Procedure was used to establish the protection zone and management area (see Appendix G for complete rule):

- Zone One is the area within a 100-foot radius from the well.
- The DWSP Management Area for the well is the area outside the 100-foot radius and within the two-mile radius of a well. No land has been excluded from the DWSP management area because nowhere within two miles of the well it is more than 100 feet lower in elevation than the total drilled depth of the well.

2.6 Protected or Unprotected Aquifer Classification

If the source is a well, the following criteria need to be met to classify the aquifer as protected: 1) A naturally protective layer of clay, at least 30 feet in thickness, is present above the aquifer; 2) data to indicate the lateral continuity of the clay layer extends throughout zone two; and 3) the well is constructed with a grout seal that extends from the ground surface down to at least 100 feet below the surface, and through the protective clay layer. Well construction data is insufficient to prove that the criteria set forth to classify the aquifer as Protected have been met. However the aquifer characteristics do meet the requirements to be a Protected Aquifer.

3.0 INVENTORY OF POTENTIAL CONTAMINATION SOURCES (PCS)

At the time this report was written there are very few existing PCS within the DWSP Management Area. The Tony M. Mine operation was discontinued in 1983, effectively eliminating most of the hazards associated with a uranium mine PCS. Based on the intentions of DUSA to reopen the Tony M. Mine for uranium production, the mining operation will be treated as an existing PCS. The location of specific hazards within the mining operation will be based on their actual or proposed location.

3.1 List of Potential Contamination Sources

Potential Source:	Tony M Mine Uranium Mining Operation
Contact Person:	Christy Woodward
Address/Location:	1050 17th Street, Suite 950, Denver, Colorado 80265
Telephone:	303-389-4136

3.2 Hazard Identification

a On-Site Wastewater Treatment System (Septic Tank and Leach Field): Possible introduction of biological contaminants, bacteria and viruses into ground water.
b Fuel Storage Area: Possible introduction of chemical contaminants into ground water.
c Maintenance Shop and Warehouse: Possible introduction of chemical contaminants into ground water.
d Uranium Ore Stockpiles: Possible introduction of uranium or uranium isotopes into water source.
e Mine Water Evaporation Pond: Possible introduction of low quality surface and mining water into water source.

3.3 Inventory Prioritization

The following is a prioritized list of the possible hazards associated with the Tony M Mine potential contamination source. They were prioritized based on proximity to well and then by the probability that the contaminants from the hazard could be introduced into the groundwater system.

1. On-Site Wastewater Treatment System
2. Fuel Storage Area
3. Maintenance Shop and Warehouse
4. Uranium Ore Stockpiles
5. Mine Water Evaporation Pond

3.4 Potential Contamination Source Location

All of the PCS are located in the west half of the Source Protection Area.

3.5 Potential Contamination Source Map

The identified PCS are plotted on Figure 3, Appendix A.

4.0 IDENTIFICATION AND ASSESSMENT OF CURRENT CONTROLS

Hazards Currently Controlled

The proposed **Septic System** for the mining facility's 150 employees will be reviewed, approved, and constructed in accordance with the rules of the State of Utah Department of Environmental Quality (UDEQ). It is located directly south and down gradient from the well (Figure 4, Appendix A). Formal regulatory controls pertaining to septic system operation do not exist. DUSA; however, has included BMPs in their Mining Plan of Operation that will ensure that the Septic System functions correctly. The Septic System is adequately controlled by Best

Management Practices therefore no further land management strategies will be planned and implemented unless conditions change. This control will be analyzed on an annual basis as a part of the yearly review of existing and proposed future PCSs (see Table 9.0).

The **Fuel Storage Area** for the Tony M. Mine is located 500 feet west of the Tony M. Mine Well #2 (Figure 4, Appendix A). In order to have a fuel storage area, DUSA was required to complete a Spill Prevention, Control, and Countermeasure Plan (SPCC). SPCC Plans ensure that facilities put in secondary containment and other countermeasures that would prevent oil/fuel spills that could reach navigable waters. This plan covers all storage tanks for refueling purposes and also includes the oil storage tanks that will be used to collect used motor oil in the Maintenance Shop. If a spill were to occur the mine personnel have guidelines to follow to ensure quick cleanup and prevent waterway contamination. The Fuel Storage Area is adequately controlled by Best Management and Pollution Prevention Practices and Physical Controls therefore no further land management strategies will be planned and implemented unless conditions change. These controls will be analyzed on an annual basis as a part of the yearly review of existing and proposed future PCSs (see Table 9.0).

The **Maintenance Shop and Warehouse** is located directly south of the existing well site (Figure 4, Appendix A). The mining operation will use this building to maintain and repair mining equipment. The largest possible hazard for contamination is from oil/fuel. As mentioned previously the oil storage containers in this facility will be covered by the SPCC. In addition to the protection provided by the SPCC, a grease trap will be installed in the wastewater collection system for this building. The grease trap will be installed to significantly reduce the potential of an accidental disposal of oil into the septic tank/leach field. The Maintenance Shop and Warehouse is adequately controlled by Best Management and Pollution Prevention Practices and Physical Controls therefore no further land management strategies will be planned and implemented unless conditions change. These controls will be analyzed on an annual basis as a part of the yearly review of existing and proposed future PCSs (see Table 9.0).

The **Uranium Ore Stockpiles** are located directly west of the Tony M Mine Well #2 (Figure 4, Appendix A). Ore removed from the mine is temporarily stockpiled in this area prior to being shipped to a uranium mill for processing. Prior to milling, the ore is relatively inert radiologically and is not expected to contribute a concentration of uranium or uranium isotopes in the groundwater greater than present concentrations (Denison Mines EA, 2007). The radiological tests for a drinking water source conducted in April, 2007 showed concentrations below the EPA and Utah maximum contaminant level (MCL). See Appendix C for complete chemical analysis.

A Storm Water Pollution Prevention Plan (SWPPP) for the Tony M Underground Uranium Mine has been prepared to conform to the National Pollution Discharge

Elimination System (NPDES) requirements set forth by the Environmental Protection Agency. This plan states that temporary ore stockpiles may contain higher activity than background levels, but potential exposure would still remain as low as is achievable. The host rock for the ore is primarily expected to be sandstone, which is not considered an acid former. Infiltration and transport of these relatively immobile elements from the surface to the groundwater is highly unlikely due to the arid environment and the stratigraphy. Best Management Practices (BMP) will be implemented to prevent stormwater runon to these areas and to eliminate the possibility of either erosion or runoff of potentially contaminated water. The Uranium Ore Stockpiles are adequately controlled by Best Management and Pollution Prevention Practices therefore no further land management strategies will be planned and implemented unless conditions change. These controls will be analyzed on an annual basis as a part of the yearly review of existing and proposed future PCSs (see Table 9.0).

The **Mine Water Evaporation Pond** is located approximately 1 mile northwest of the well site (Figure 3, Appendix A). This pond is a total containment pond with a clay liner that is used to store and evaporate water that is pumped from the underground mining operation. The pond has a 22 acre surface area when full. The water pumped from the mine shafts is water from the Salt Wash Member Aquifer that infiltrates into the mine workings. This aquifer is the uppermost aquifer in the area and is not known to contaminate the lower aquifers (Jackson and Noller 1991). The Mine Water Evaporation Pond is adequately controlled by Physical Controls therefore no further land management strategies will be planned and implemented unless conditions change. These controls will be analyzed on an annual basis as a part of the yearly review of existing and proposed future PCSs (see Table 9.0).

5.0 MANAGEMENT PROGRAM FOR EXISTING POTENTIAL CONTAMINATION SOURCES

DUSA is aware that several components of their mining operation have been identified as potential contamination sources and are located within the Tony M Mine well management area. They have already taken steps to minimize the potential for groundwater contamination by implementing a SPCC and a SWPPP. To further reduce the potential of groundwater contamination, DUSA will include in their Mine Plan of Operations the attached fact sheets produced by the UDEQ to educate the mining operators about proper use and operation of pesticides, fertilizers, household hazardous waste, industrial waste, vehicle maintenance shops, and septic tank/drain-field systems within a well management area. A copy of the fact sheets can be found in Appendix D.

6.0 MANAGEMENT PROGRAM FOR FUTURE POTENTIAL CONTAMINATION SOURCES

The well management area is located on both Utah State Trust Lands (SITLA) and Bureau of Land Management (BLM) Administered Lands. Both of these agencies were contacted by letter and notified of the well management area that is associated with the Tony M Mine Well #2. The notification letters and the response letters from the BLM and SITLA are included in Appendix E.

Both BLM and SITLA have agreed to consider the Tony M Mine drinking water source when planning future projects in the area surrounding the well.

7.0 IMPLEMENTATION SCHEDULE

Implementation of this SPP will occur within three months of approval of the plan by the UDEQ. An annual review by DUSA of existing and proposed future potential contamination source status will be held prior to May 1st. DUSA will focus on problem areas and determine if more stringent controls are needed.

8.0 RESOURCE EVALUATION

The Tony M Mine Public Drinking Water System is a privately controlled utility owned and operated by DUSA. Monies will be budgeted for water system maintenance and upgrades as part of the mining operation. Items identified within the SPP that require funding will be included in the budgeted amount for the water system.

9.0 RECORDKEEPING

The following records are to be kept on file at the Mine Administration Office by DUSA:

1. Implementation records, specific to particular items in the management plan, list the potential contaminants that the drinking water source will be protected from; dates of implementation, and action taken including but not limited to minutes of meetings, training sessions, and public education programs.

2. Changes to the SPP.

   Table 9.0 includes a list of action items, required dates for completion, and a space to fill in the dates that the items were actually completed. Additional spaces are included to record other items mentioned in this section or other items that DUSA feels pertain to this plan.

Table 9.0: Recordkeeping Action Items and Dates

Action Items	Referenced Section	Required Completion Date	Actual Completion Date
Implement Drinking Water SPP	7.0	At the end of construction of the new water system	
Include Fact Sheets in Mine Operational Procedures	5.0	Upon Plan implementation	June 14, 2007
Annual Review of Existing and Proposed Future PCSs	7.0	Annually prior to February 15th	
Send Public Notification Form	11.0	With next Consumer Confidence Report	

10.0 CONTINGENCY PLAN

10.1 Emergency Response Plan

1. Hazardous Waste Spills
   A. Less than 50 gallons of solvents and paints will be kept on site at any one time. These will be stored in 1 to 5 gallon containers and should require minimal cleanup if spilled.

2. Earthquakes
   A. Attempt to locate waterline breaks.
   B. Mobilize forces to make repairs.
   C. Where breaks are located in waterline, evaluate extent of possible contamination; sample as necessary.
   D. Institute a "boil order" (requirement to boil water prior to use) if needed.

10.2 Rationing Plan

Because the mining operation is relatively small and the storage requirements are only sufficient for one day of regular use, a rationing plan will only be implemented if the water supply is entirely disrupted. In case of water supply disruption DUSA will determine which water uses will be eliminated until the supply is restored.

10.3 Water Supply Decontamination Plan

The following items constitute a plan for dealing with water supply contamination for the Tony M Mine water system. The plan will be administered and implemented by DUSA.

1. The Mining Operation will follow the State Drinking Water Rules concerning Monitoring, Reporting, and Public Notification according to Section R309-104.
2. If continued monitoring shows a contaminant to be persistent over time, methods for eliminating the contaminant will be reviewed. The review will include available options, relative effectiveness as well as ease and cost of implementation of options.
3. Should all available treatment alternatives prove ineffective or cost prohibitive, abandonment of the source may be the only responsible course of action.

10.4 Source Development Plan

The existing well and water right are sufficient for Phase One of the Tony M Mine Operation. If the mining operation continues beyond Phase One, additional mining facilities will be constructed nearer the future ore deposits. This will require that a separate water system be developed including drilling a new well and appropriating additional water rights.

11.0 PUBLIC NOTIFICATION

This plan will be available for public review in accordance with Administrative Ruling R309-600-15. The following public notification statement will be distributed in the next Consumer Confidence Report after the completion of this plan.

The Drinking Water Source Protection Plan for Tony M Mine Well #2 is available for your review. It contains information about source protection zones, potential contamination sources, and management strategies to protect our drinking water. The only identified potential contamination source in our protection areas is the Tony M Mine underground uranium mine operation.

Additionally, our well has a low susceptibility to potential contamination. We have also developed management strategies to further protect our sources from contamination. Please contact us at Denison Mines (USA) Corp. 1050 17th Street, Suite 950, Denver, Colorado 80265; Telephone: 303-628-7798 if you have any questions or concerns about our source protection plan.

This statement is also included in Appendix D in letter format for added ease in

distribution.

12.0 WAIVERS

DUSA will not be requesting any waivers at this time, but plan to request them in the future after sufficient testing can support the granting of a waiver.

REFERENCE

Denison Mines (USA) Corp. (Draft) Environmental Assessment to Commence Mining Operations at the Tony M Underground Uranium Mine, Environmental Assessment UT- 050-07-032-EA. July 2007.

Jackson, M. D., and J. S. Noller, 1991. Geologic Map of the Copper Creek Benches Quadrangle, Garfield County, Utah. Utah Geological and Mineral Survey Open-File Report 209.

Scott Wilson Roscoe Postle Associates Inc. 2006. Technical Report on the Henry Mountains Complex Uranium Project, Utah, USA. September.

Tetra Tech 2006a. Geotechnical Investigation Evaporation Pond Embankment Tony M Mine Garfield County, Utah. October.

Tetra Tech 2006b. Stormwater Pollution Prevention Plan for Construction of Tony M Underground Uranium Mine. September.

Tetra Tech 2006c. Spill Prevention, Control and Countermeasure Plan for the Tony M Underground Uranium Mine. November.

Utah Department of Natural Resources, Division of Water Resources (DNR) 2000. Utah State Water Plan for the West Colorado River Basin. August.

Appendix A

Exhibits

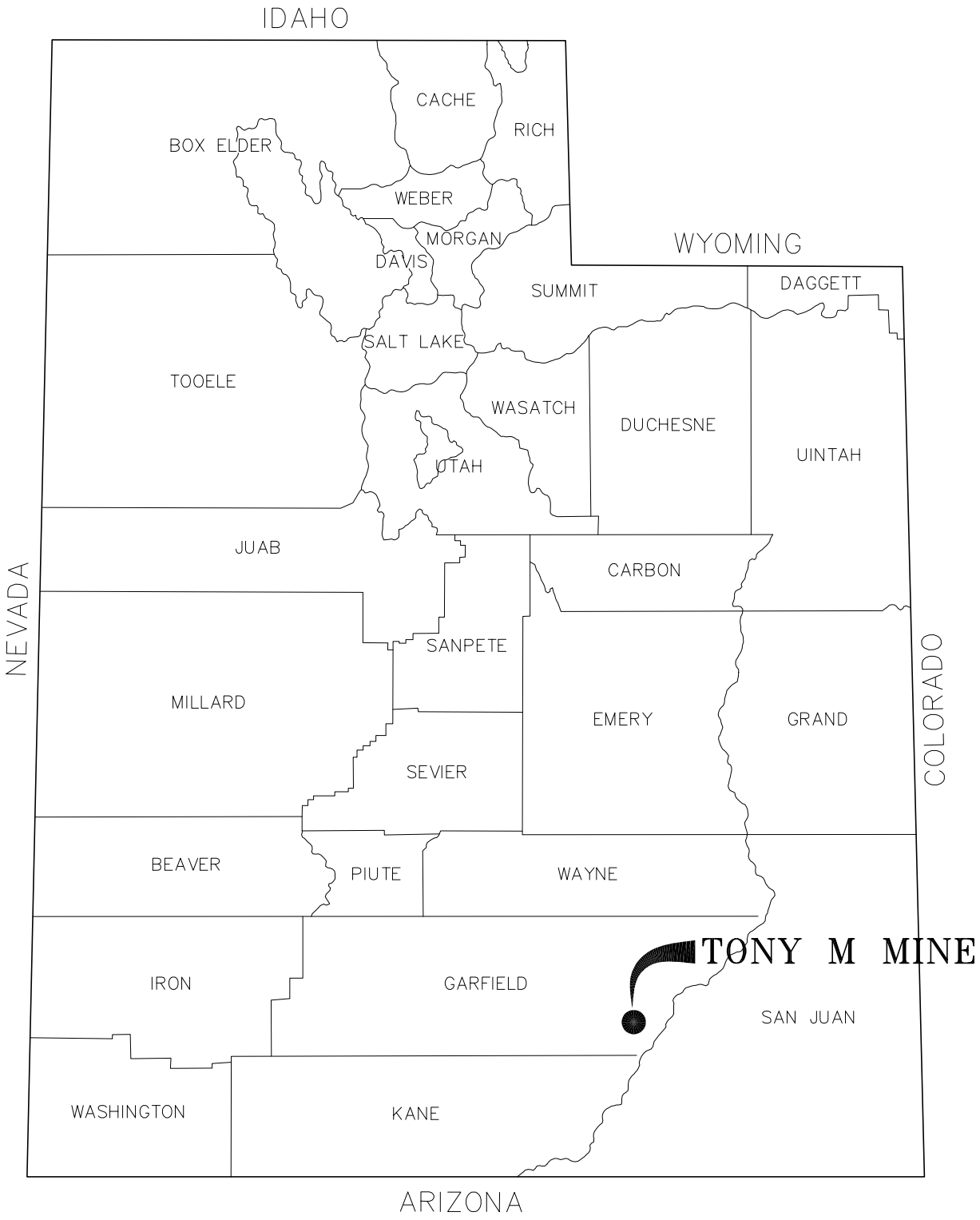
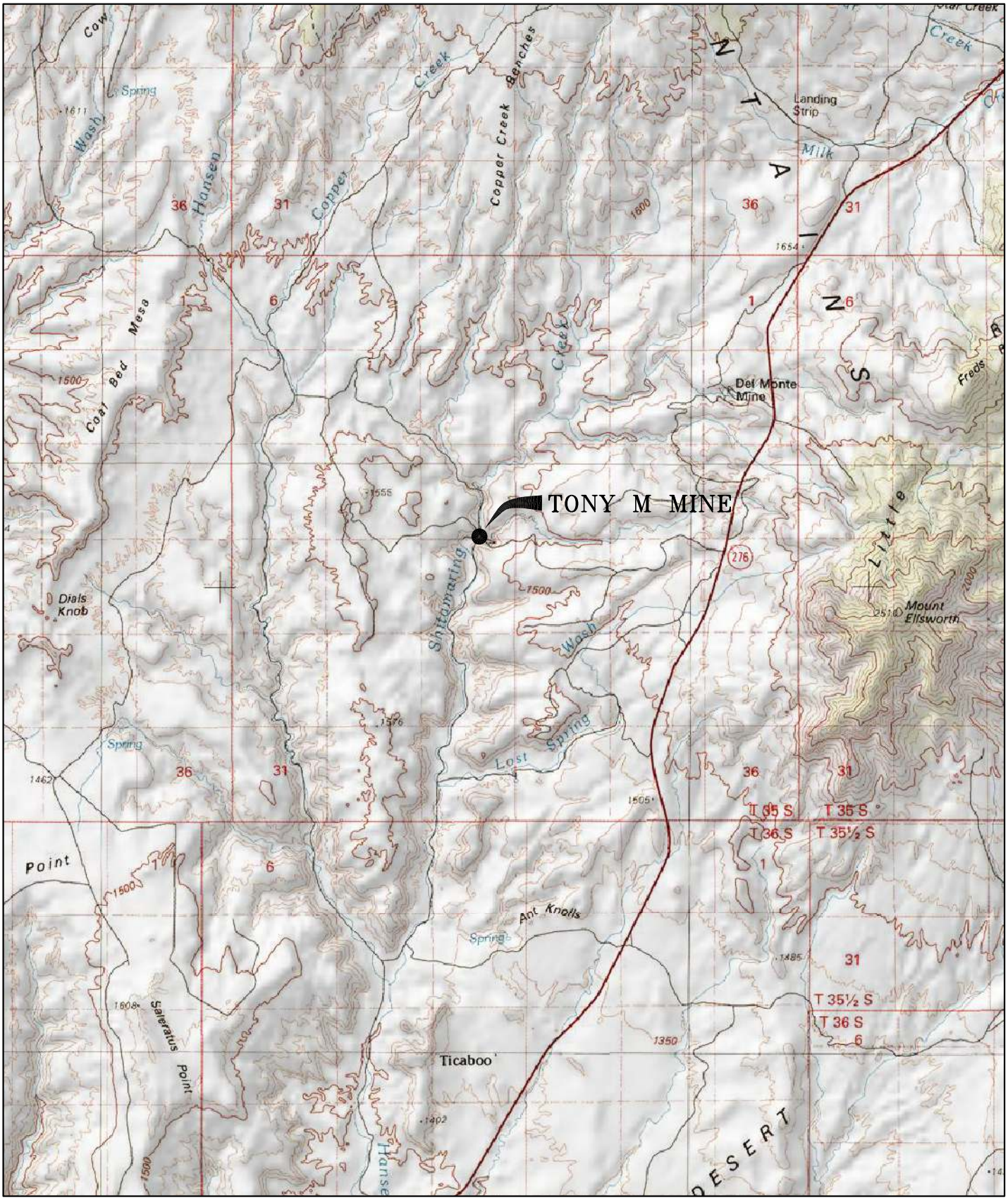


Figure 1

Jones & DeMille Engineering
1535 South 100 West – Richfield, Utah 84701
(435) 896–8266 Phone
(435) 896–8268 Fax
www.jonesanddemille.com

Tony M Mine		
Location Map		
Garfield County		
SCALE: nts	ENG.: R.J.	PROJ.#: 0701–075
DATE: 06–11–07	DWG.BY: R.J.	DWG.NAME: location



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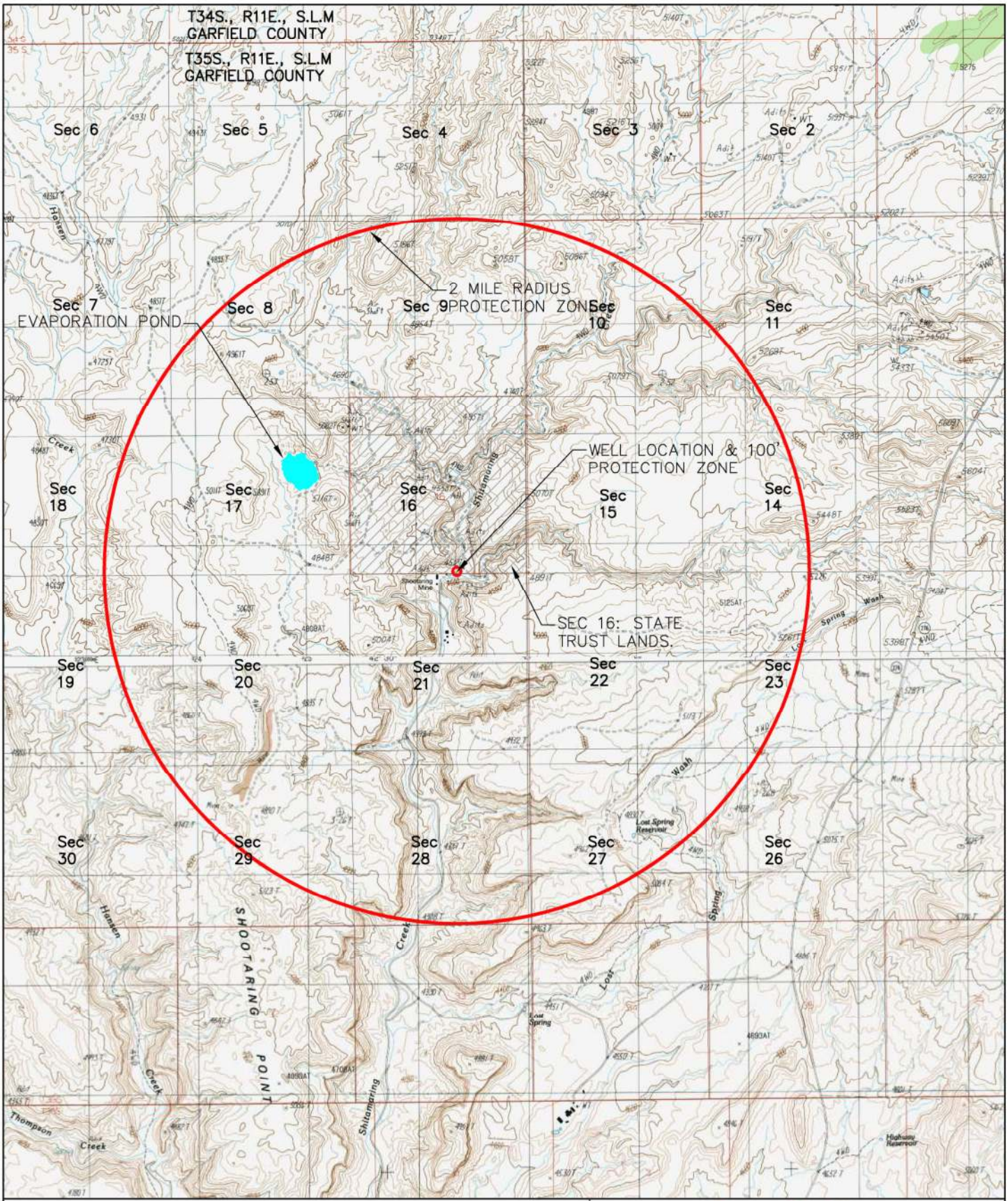
(435) 896–8268 Fax
www.jonesanddemille.com

Tony M Mine
Source Protection Plan
Vicinity Map

SCALE: 1" = 7500'	ENG.: R.J.	PROJ.#: 0701–075
DATE: 06–11–07	DWG.BY: R.J.	DWG.NAME: Maps



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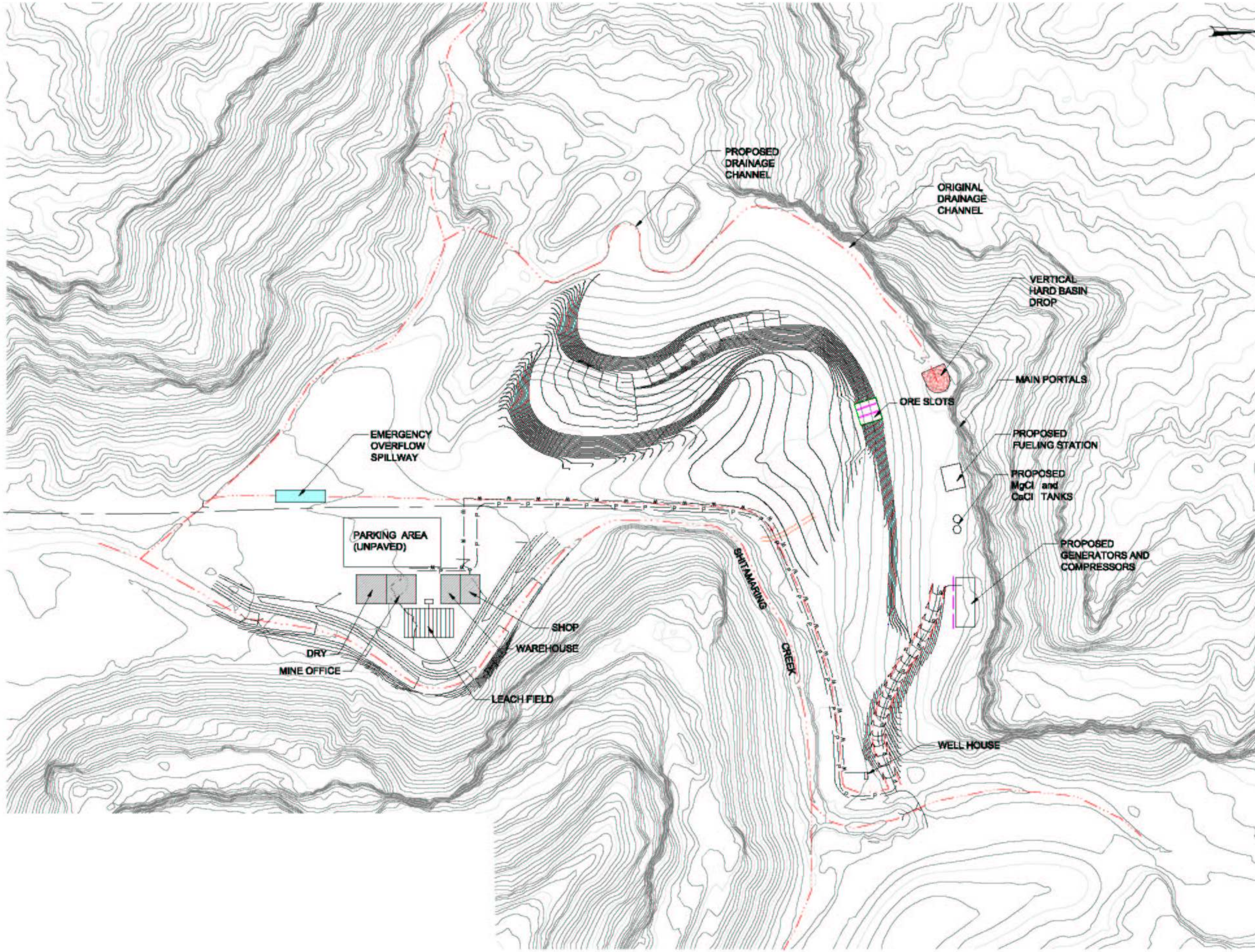
Tony M Mine

Source Protection Plan

Well Management Area

SCALE: 1" = 4000'	ENG.: R.J.	PROJ.#: 0701–075
DATE: 06–11–07	DWG.BY: R.J.	DWG.NAME: Maps



Jones & DeMille Engineering

REVISIONS

ORIGINAL SUBMISSION FOR AUTHORIZATION

SCALE: 1"=200'

LAST UPDATE: 6/12/2007

DESIGN: RJ 06/07

DRAWN: RJ 06/07

DENISON MINES

TONY M MINE

SITE PLAN

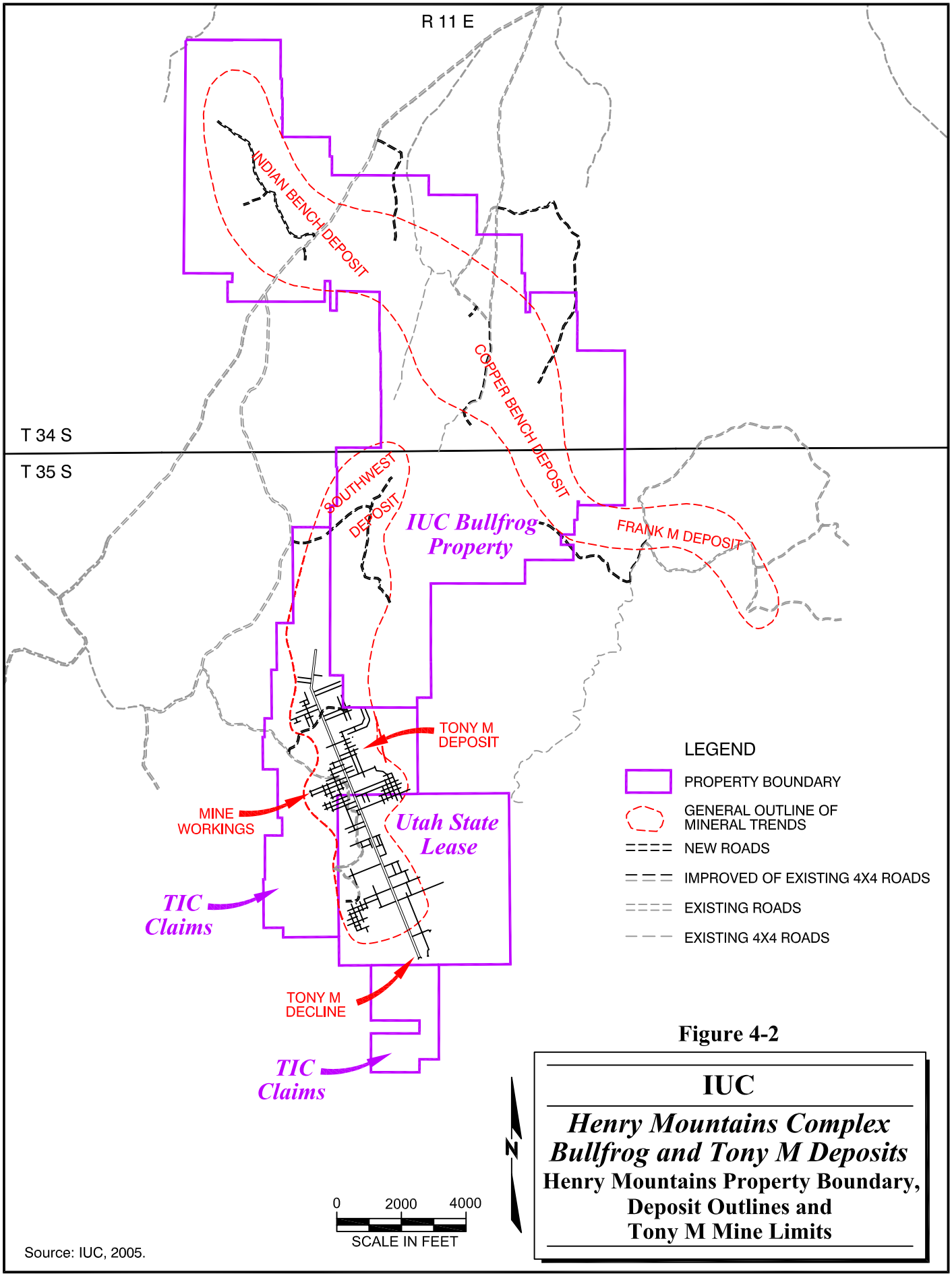
PROJECT NUMBER: 0701-075

GARFIELD COUNTY

SHEET NO. FIG. 4

Appendix B

Geology



Source: IUC, 2005.

Figure 4-2

IUC

Henry Mountains Complex
Bullfrog and Tony M Deposits
Henry Mountains Property Boundary, Deposit Outlines and Tony M Mine Limits

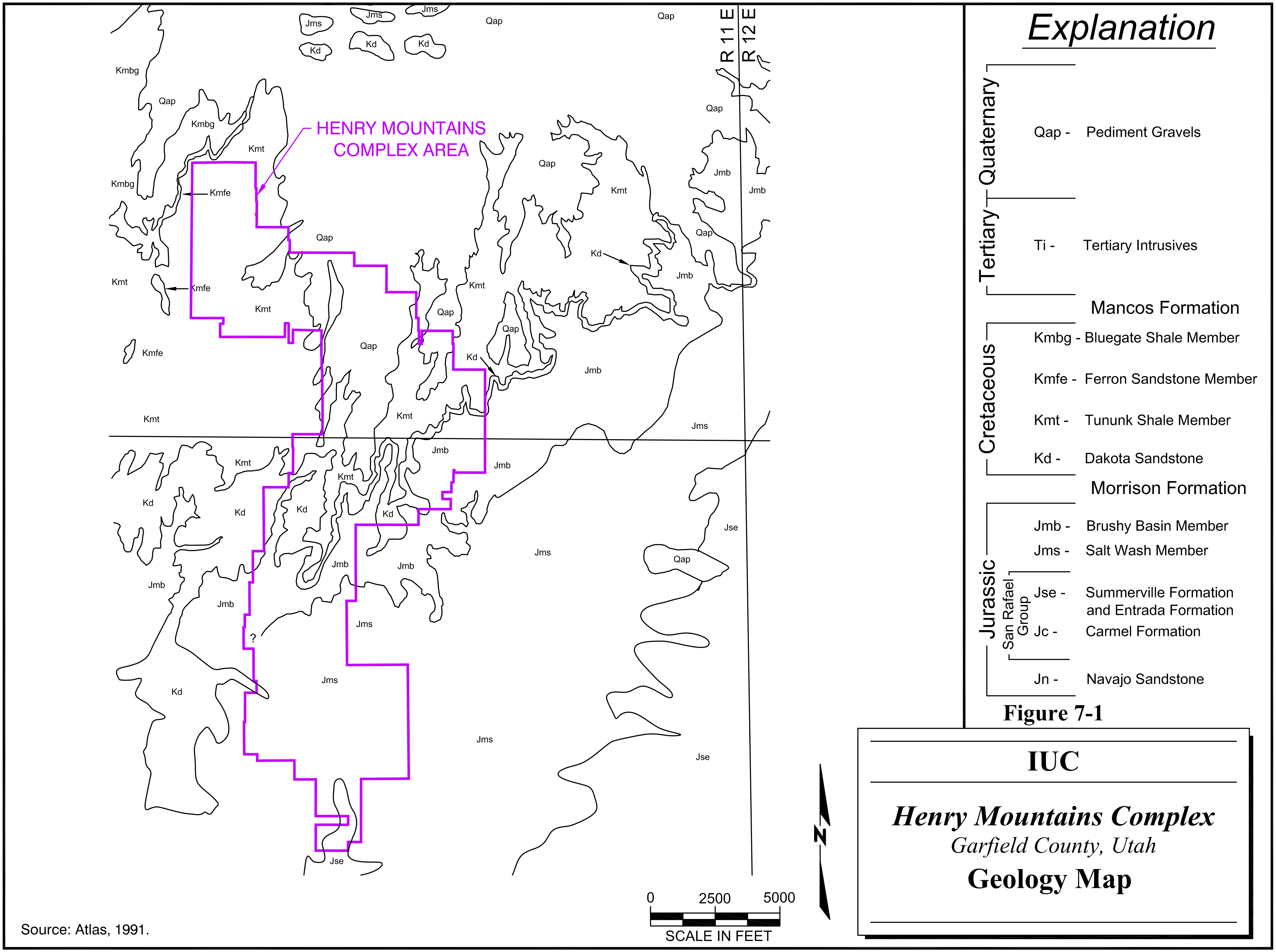


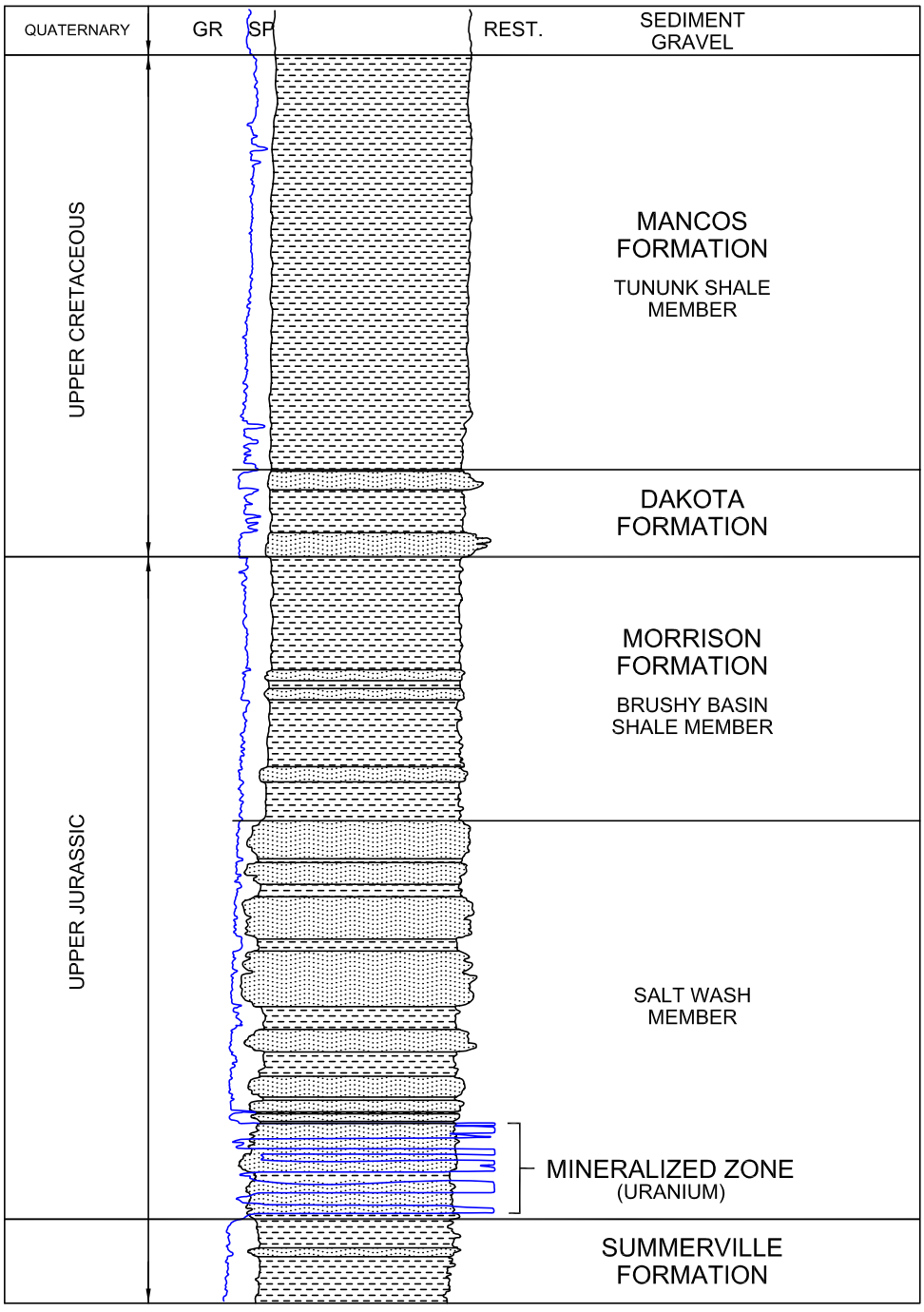
Figure 7-1

IUC

Henry Mountains Complex

Garfield County, Utah

Geology Map



Source: Atlas, 1991.

Figure 7-4

IUC

Henry Mountains Complex Representative Stratigraphic Section

SYSTEM	FORMATION	SYMBOL	THICKNESS FEET (METERS)	LITHOLOGY	DESCRIPTIONS
QUATERNARY	Pediment alluvium, Younger pediment alluvium, Older pediment alluvium, Alluvial deposits, Alluvial terrace deposits, Younger alluvial terrace deposits, Older alluvial terrace deposits, Alluvial fan deposits, Older alluvial fan deposits, Colluvial deposits, Colluvium of diorite clasts, Alluvial-colluvial deposits, Older alluvial-colluvial deposits, Landslides, Talus of diorite clasts, Talus flows, Marsh deposits, Highway Fill	Qapu, Qapy, Qapo, Qa, Qat, Qaty, Qato, Qaf, Qafo, Qc, Qcd, Qac, Qaco, Qms, Qmtd, Qmtf, Qsm, Qfh	0-50 (0-15)		alluvium, colluvium, landslides, talus
TERTIARY	Dioritic Intrusions	Td			porphyritic diorite and quartz diorite light gray
UPPER CRETACEOUS	Mancos Shale: Blue Gate Shale Member	Kmbg	>1000 (305)		marine shale, minor sandstone, bluish-gray; coal
	Mancos Shale: Ferron Sandstone Member	Kf	200-285 (60-87)		marginal marine, sandstone, shale, yellowish-gray
	Mancos Shale: Tununk Shale Member	Kmt / Kd			marine, shale, minor sandstone, dark gray
	Dakota Sandstone		0-90 (0-27)		marginal marine, sandstone, shale
UPPER JURASSIC	Morrison Formation: Brushy Basin Member	Jmb	230-450 (70-140)		lacustrine, mudstone, variegated colors
	Morrison Formation: Salt Wash Member	Jms	550 (168)		lacustrine and alluvial plain, sandstone, conglomerate, yellowish-brown
	Morrison Formation: Tidwell Member (included in Js)				fluvial, lacustrine, mudstone, sandstone red
	Summerville Fm.	Js	180 (55)		restricted marine, sandstone, mudstone, shale, reddish-brown
MIDDLE JURASSIC	Entrada Sandstone	Je	562-720 (171-219)		eolian, shallow marine, sandstone, reddish-orange
	Carmel Formation	Jc	81-168 (25-51)		shallow marine, sandstone, siltstone, mudstone, reddish-brown
	Page Sandstone				eolian, sandstone, tan
LOWER JURASSIC	Navajo Sandstone	Jpn	520-625 (160-190)		eolian, sandstone, light gray to light orange
	Kayenta Formation	Jk	263-445 (80-135)		fluvial, sandstone, siltstone, reddish-brown
UPPER TRIASSIC	Wingate Sandstone	Jw	200-300 (61-91)		eolian, sandstone, reddish-pink
	Chinle Formation	Tkc	338-390 (103-119)		fluvial, lacustrine, deltaic, mudstone, claystone, siltstone, conglomerate, variegated colors, reddish-brown, yellowish-gray
LOWER AND MIDDLE? TRIASSIC	Moenkopi Formation	Tkm	180-280 (55-85)		shallow and restricted marine, sandstone, siltstone, mudstone, brown
PERMIAN	Cutler Formation: White Rim Sandstone Member	Pcwr	195-280 (65-85)		eolian, sandstone, light yellow
	Cutler Formation: Organ Rock Tongue	Pcor	246 (75)		marginal marine, sandstone, siltstone, mudstone, reddish-brown
	Cutler Formation: Cedar Mesa Sandstone Member	Pccm	700-1500 (213-456)		eolian, sandstone, light yellow

Appendix C

Well Data

Box 159
Hanksville, UT 84734
(435)542-3411

Well #_____ Owner Well at Tony M Mine Shootaring Canyon
Static Water Level 155 feet Maximum yield **Constant Rate Test**
Total time Pumped 13 Hours 3 minutes Date 4-24-2007 and 4-25-2007

Time Start	Time Stop	Water Level	GPM	Time interval	remarks
		155'	when pump first turned on it was running at 60 gpm which was immediately turned down to 20 GPM		
14:17:00	14:17:30	183'	20 GPM	30 seconds	
14:17:30	14:18:00	182'	20 GPM	30 seconds	
14:18:00	14:18:30	181'	20 GPM	30 seconds	
14:18:30	14:19:00	181'	20 GPM	30 seconds	
14:19:00	14:19:30	180'	20 GPM	30 seconds	
14:19:30	14:20:00	180'	20 GPM	30 seconds	
14:20:00	14:20:30	180' 6"	20 GPM	30 seconds	
14:20:30	14:21:00	180' 6"	20 GPM	30 seconds	
14:21:00	14:22:00	181'	20 GPM	1 minute	
14:22:00	14:23:00	181' 11"	20 GPM	1 minute	
14:23:00	14:24:00	182'	20 GPM	1 minute	
14:24:00	14:25:00	183'	20 GPM	1 minute	
14:25:00	14:26:00	183' 6"	20 GPM	1 minute	
14:26:00	14:27:00	184'	20 GPM	1 minute	
14:27:00	14:28:00	185'	20 GPM	1 minute	
14:28:00	14:29:00	185'	20 GPM	1 minute	
14:29:00	14:30:00	186'	20 GPM	1 minute	
14:30:00	14:32:00	186' 2"	20 GPM	2 minute	
14:32:00	14:34:00	187' 6"	20 GPM	2 minute	
14:34:00	14:36:00	187' 6"	20 GPM	2 minute	
14:36:00	14:38:00	188'	20 GPM	2 minute	
14:38:00	14:40:00	188' 6"	20 GPM	2 minute	
14:40:00	14:45:00	189' 6"	20 GPM	5 minute	
14:45:00	14:50:00	190' 6"	20 GPM	5 minute	

14:55:00	15:00:00	192'	20 GPM	5 minute	
15:00:00	15:05:00	192' 4"	20 GPM	5 minute	
15:05:00	15:10:00	193'	20 GPM	5 minute	
15:10:00	15:15:00	193' 6"	20 GPM	5 minute	
15:15:00	15:20:00	194'	20 GPM	5 minute	
15:20:00	15:35:00	195'	20 GPM	15 minute	
15:35:00	15:50:00	196'	20 GPM	15 minute	
15:50:00	16:05:00	196' 6"	20 GPM	15 minute	
16:05:00	16:20:00	197' 2"	20 GPM	15 minute	
16:20:00	16:50:00	197' 6"	20 GPM	30 minute	
16:50:00	17:20:00	199'	20 GPM	30 minute	
17:20:00	17:50:00	199' 9"	20 GPM	30 minute	
17:50:00	18:20:00	200' 6"	20 GPM	30 minute	
18:20:00	19:20:00	201' 11"	20 GPM	60 minute	
19:20:00	20:20:00	203'	20 GPM	60 minute	
20:20:00	21:20:00	203' 11"	20 GPM	60 minute	
21:20:00	22:20:00	204' 6"	20 GPM	60 minute	
22:20:00	23:20:00	204' 6"	20 GPM	60 minute	
23:20:00	00:20:00	204' 6"	20 GPM	60 minute	
00:20:00	01:20:00	204' 6"	20 GPM	60 minute	4-25-05
01:20:00	02:20:00	204' 6"	20 GPM	60 minute	
02:20:00	03:20:00	204' 6"	20 GPM	60 minute	

UNZICKER & WELLS DRILLING
Box 159
Hanksville, UT 84734
(435)542-3411

Well #_____ Owner Well at Tony M Mine Shootaring Canyon
Static Water Level 155 feet Maximum yield Recovery Test
Total time Measured 7 Hours19 minutes 40 seconds Date 4-25-2007

Time Start	Time Stop	Water Level	GPM	Time interval	remarks
03:27:50	03:28:20	201'	recovery	30 seconds	
03:28:20	03:28:50	199'		30 seconds	
03:29:20	03:29:50	196' 3"		30 seconds	
03:29:50	03:30:20	194' 1"		30 seconds	
03:30:20	03:30:50	192' 6"		30 seconds	
03:30:50	03:31:20	191' 2"		30 seconds	
03:31:20	03:31:50	189' 5"		30 seconds	
03:31:50	03:32:20	188' 4"		30 seconds	
03:32:20	03:32:50	187' 3"		30 seconds	
03:32:50	03:33:20	186' 7"		30 seconds	
03:33:20	03:33:50	185' 6"		30 seconds	
03:33:50	03:34:20	184' 8"		30 seconds	
03:34:20	03:34:50	184' 1"		30 seconds	
03:34:50	03:35:20	183' 3"		30 seconds	
03:35:20	03:35:50	182' 7"		30 seconds	
03:35:50	03:36:20	182' 2"		30 seconds	
03:36:20	03:36:50	181' 6"		30 seconds	
03:36:50	03:37:20	181'		30 seconds	
03:37:20	03:37:50	180' 7"		30 seconds	
03:37:50	03:38:20	180' 1"		30 seconds	
03:38:20	03:38:50	179' 8"		30 seconds	
03:38:50	03:39:20	179' 4"		30 seconds	
03:39:20	03:39:50	179'		30 seconds	
03:39:50	03:40:20	178' 7"		30 seconds	
03:40:20	03:40:50	178' 3"		30 seconds	

03:40:50	03:41:20	178'		30 seconds	
03:41:20	03:41:50	177' 7"		30 seconds	
03:41:50	03:42:20	177' 4"		30 seconds	
03:42:20	03:42:50	177' 1"		30 seconds	
03:42:50	03:43:20	176' 9"		30 seconds	
03:43:20	03:43:50	176' 7"		30 seconds	
03:43:50	03:44:20	176' 2"		30 seconds	
03:44:20	03:44:50	176'		30 seconds	
03:44:50	03:45:20	175' 8"		30 seconds	
03:45:20	03:45:50	175' 7"		30 seconds	
03:45:50	03:46:20	175' 6"		30 seconds	
03:46:20	03:46:50	175' 4"		30 seconds	
03:46:50	03:47:20	175' 1"		30 seconds	
03:47:20	03:47:50	175'		30 seconds	
03:47:50	03:48:20	174' 8"		30 seconds	
03:48:20	03:49:00	174' 3"		40 seconds	
03:49:00	03:50:00	174'		1 minute	
03:50:00	03:51:00	173' 9"		1 minute	
03:51:00	03:52:00	173' 3"		1 minute	
03:52:00	03:53:00	173'		1 minute	
03:53:00	03:54:00	172' 8"		1 minute	
03:54:00	03:55:00	172' 6"		1 minute	
03:55:00	03:56:00	172' 3"		1 minute	
03:56:00	03:57:00	172'		1 minute	
03:57:00	03:58:00	171' 9"		1 minute	
03:58:00	04:00:00	171' 4"		2 minute	
04:00:00	04:02:00	170' 9"		2 minute	
04:02:00	04:04:00	170' 6"		2 minute	
04:04:00	04:06:00	170' 3"		2 minute	
04:06:00	04:08:00	169' 9"		2 minute	
04:08:00	04:13:00	169' 1"		5 minute	

)4:13:00	04:18:00	168' 8"		5 minute	
)4:18:00	04:23:00	167' 9"		5 minute	
)4:23:00	04:28:00	167' 5"		5 minute	
)4:28:00	04:33:00	167'		5 minute	
)4:33:00	04:38:00	166' 7"		5 minute	
)4:38:00	04:43:00	166' 1"		5 minute	
)4:43:00	04:48:00	165' 8"		5 minute	
)4:48:00	05:03:00	165' 1"		15 minute	
)5:03:00	05:18:00	164' 1"		15 minute	
)5:18:00	05:33:00	163' 5"		15 minute	
)5:33:00	05:48:00	163'		15 minute	
)5:48:00	06:18:00	161' 3"		30 minute	
06:18:00	06:48:00	160'		30 minute	
06:48:00	07:18:00	160'		30 minute	
07:18:00	07:48:00	160'		30 minute	
07:48:00	08:48:00	160'		60 minute	
08:48:00	09:48:00	160'		60 minute	
09:48:00	10:48:00	160'		60 minute	

When the well had stabilized at 160' for 4.5 hours we shut down the test

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Fax: 801-262-7378

Date: 04/30/07

Jones and DeMille Engineering
attn: Tim Jones
1535 South 100 West
Richfield, UT 84701

This is the final report for project: 83731
Individual pages or sections of this report may not be separated when using the information for regulatory compliance.

The analyses presented on this report were performed in accordance with National Environmental Laboratory Accreditation Program (NELAP), Section 5.13.

Please feel free to contact us at (801) 262-7299 or (801) 262-7378 (fax) if you have questions or comments regarding this report. Our web site is located at www.chemtechford.com.

Dave Gayer
Laboratory Director
dave@chemtechford.com

Linda Daniels
Customer Representative
linda@chemtechford.com

Approved By: _____
Dave Gayer, Laboratory Director

Chemtech-Ford Laboratories

Certificate of Analysis

Lab No.: 07 03316
Lab Group No.: 83731

Name:	Jones and DeMille Engineering	***Sample Date:***	4/10/2007 1:00 PM
Sample Site:	Tony M Mine Well	***Receipt Date:***	4/11/2007 10:50 AM
Sample ID:	07 03316	***Sampler:***	JOLLEY
System No:		***Sample Source:***	
Sample Type:	Drinking Water	***Project:***	

Parameter	Sample Result	Mimimum Reporting Limit	Units	Method	Analysis Date	Analysis Time	Analyst Initials	Flag
Group A - Inorganic								
Alkalinity - Bicarbonate	170	1	mg/L	SM 2320B	4/16/2007	14:00	TP	
Alkalinity - Carbon Dioxide	130	1	mg/L	SM 2320B	4/16/2007	14:00	TP	
Alkalinity - Carbonate	ND	1	mg/L	SM 2320B	4/16/2007	14:00	TP	
Alkalinity - Hydroxide	ND	1	mg/L	SM 2320B	4/16/2007	14:00	TP	
Alkalinity - Total (as CaCO3)	140	1	mg/L	SM 2320B	4/16/2007	14:00	TP	
Ammonia as N	ND	0.2	mg/L	SM 4500 NH3	4/16/2007	11:00	TSM	
Apparent Color	0	0	CU	EPA 110.2	4/11/2007	12:00	JSH	
Chloride, IC	9	1	mg/L	EPA 300.0	4/12/2007	7:30	TSM	
Conductivity	1200	1	umhos/cm	EPA 120.1	4/13/2007	11:00	TP/J	
Cyanide, Free	ND	0.01	mg/L	ASTM D2036	4/11/2007	16:30	TP	
Fluoride, IC	0.3	0.1	mg/L	EPA 300.0	4/12/2007	7:30	TSM	
Hardness, as CaCO3	180	1	mg/L	SM 2340B	4/18/2007	7:00	Calc	
Langelier Index (@ 20 C)	+ 0.05	0.01	None	Calc	4/18/2007	7:00	Calc	
Nitrate as N, IC	2.4	0.1	mg/L	EPA 300.0	4/12/2007	7:30	TSM	
Nitrite as N, IC	ND	0.1	mg/L	EPA 300.0	4/12/2007	7:30	TSM	
Odor	0	0	0-5 Scale	SM 2150B	4/11/2007	12:41	JSH	
pH	7.82	0.5	units	EPA 150.1	4/11/2007	16:00	JSH	
Phosphate, Ortho as PO4	ND	0.01	mg/L	SM 4500 PE	4/12/2007	13:00	TSM	
Solids, Total Dissolved (TDS)	851	5	mg/L	SM 2540C	4/12/2007	10:30	JSH	
Sulfate, IC	470	10	mg/L	EPA 300.0	4/12/2007	7:30	TSM	
Surfactants (MBAS)	ND	0.08	mg/L	EPA 425.1	4/12/2007	12:00	AKL	
Turbidity	3.4	0.02	NTU	EPA 180.1	4/11/2007	17:00	JSH	
Group B - Metals								
Aluminum, Total, ICP	ND	0.1	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Antimony, Total, ICP/MS	ND	0.0005	mg/L	EPA 200.8	4/18/2007	16:20	MJB	
Arsenic, Total, ICP/MS	0.0026	0.0005	mg/L	EPA 200.8	4/18/2007	16:20	MJB	
Barium, Total, ICP	0.032	0.005	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Beryllium, Total, ICP	ND	0.001	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Boron, Total, ICP	0.10	0.05	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Cadmium, Total, ICP/MS	ND	0.0005	mg/L	EPA 200.8	4/18/2007	16:20	MJB	
Calcium, Total, ICP	47.0	0.2	mg/L	EPA 200.7	4/17/2007	14:08	MJB	

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Certificate of Analysis

Lab No.: 07 03316
Lab Group No.: 83731

Name:	Jones and DeMille Engineering	***Sample Date:***	4/10/2007 1:00 PM
Sample Site:	Tony M Mine Well	***Receipt Date:***	4/11/2007 10:50 AM
Sample ID:	07 03316	***Sampler:***	JOLLEY
System No:		***Sample Source:***	
Sample Type:	Drinking Water	***Project:***	

Parameter	Sample Result	Mimimum Reporting Limit	Units	Method	Analysis Date	Analysis Time	Analyst Initials	Flag
Group B - Metals								
Chromium, Total, ICP	0.013	0.005	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Copper, Total, ICP	ND	0.005	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Iron, Total, ICP	2.18	0.02	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Lead, Total, ICP/MS	0.0011	0.0005	mg/L	EPA 200.8	4/18/2007	16:20	MJB	
Magnesium, Total, ICP	15.2	0.2	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Manganese, Total, ICP	0.025	0.005	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Mercury, Total, ICP/MS	ND	0.0002	mg/L	EPA 200.8	4/18/2007	16:20	MJB	
Nickel, Total, ICP	ND	0.005	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Potassium, Total, ICP	8.5	0.2	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Selenium, Total, ICP/MS	0.0117	0.0005	mg/L	EPA 200.8	4/18/2007	16:20	MJB	
Silica, (as SiO2) Total, ICP	19.0	0.1	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Silver, Total, ICP/MS	ND	0.0005	mg/L	EPA 200.8	4/18/2007	16:19	MJB	
Sodium, Total, ICP	158	0.5	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Thallium, Total, ICP/MS	ND	0.0005	mg/L	EPA 200.8	4/18/2007	16:20	MJB	
Zinc, Total, ICP	0.20	0.01	mg/L	EPA 200.7	4/17/2007	14:08	MJB	
Group E - Radiochemicals								
Gross Alpha	3.1		pCi/L	EPA 900.0	4/23/2007	19:11	GPL	O
Gross Alpha LLD	2.1		pCi/L	EPA 900.0	4/23/2007	19:11	GPL	O
Gross Alpha Variance	1.9		pCi/L	EPA 900.0	4/23/2007	19:11	GPL	O
Gross Beta	9.4		pCi/L	EPA 900.0	4/23/2007	19:11	GPL	O
Gross Beta LLD	2.8		pCi/L	EPA 900.0	4/23/2007	19:11	GPL	O
Gross Beta Variance	2.6		pCi/L	EPA 900.0	4/23/2007	19:11	GPL	O
Group P - Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,1,1-Trichloroethane	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,1,2,2-Tetrachloroethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,1,2-Trichloroethane	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,1,2-Trichlorotrifluoroethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,1-Dichloroethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,1-Dichloroethylene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,1-Dichloropropene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	

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Lab No.: 07 03316
Lab Group No.: 83731

Name:	Jones and DeMille Engineering	***Sample Date:***	4/10/2007 1:00 PM
Sample Site:	Tony M Mine Well	***Receipt Date:***	4/11/2007 10:50 AM
Sample ID:	07 03316	***Sampler:***	JOLLEY
System No:		***Sample Source:***	
Sample Type:	Drinking Water	***Project:***	

Parameter	Sample Result	Mimimum Reporting Limit	Units	Method	Analysis Date	Analysis Time	Analyst Initials	Flag
Group P - Volatile Organic Compounds								
1,2,3-Trichlorobenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,2,3-Trichloropropane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,2,4-Trichlorobenzene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,2,4-Trimethylbenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,2-Dichlorobenzene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,2-Dichloroethane	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,2-Dichloropropane	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,3,5-Trimethylbenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,3-Dichlorobenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,3-Dichloropropane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
1,4-Dichlorobenzene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
2,2-Dichloropropane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
2-Chlorotoluene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
4-Chlorotoluene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
4-Isopropyltoluene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Benzene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Bromobenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Bromochloromethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Bromodichloromethane	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Bromoform	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Bromomethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Carbon Tetrachloride	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Chlorobenzene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Chloroethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Chloroform	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Chloromethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
cis 1,3-Dichloropropylene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
cis-1,2,-Dichloroethylene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Dibromochloromethane	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Dibromomethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Dichlorodifluoromethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Ethylbenzene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	

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Certificate of Analysis

Lab No.: 07 03316
Lab Group No.: 83731

Name:	Jones and DeMille Engineering	***Sample Date:***	4/10/2007 1:00 PM
Sample Site:	Tony M Mine Well	***Receipt Date:***	4/11/2007 10:50 AM
Sample ID:	07 03316	***Sampler:***	JOLLEY
System No:		***Sample Source:***	
Sample Type:	Drinking Water	***Project:***	

Parameter	Sample Result	Mimimum Reporting Limit	Units	Method	Analysis Date	Analysis Time	Analyst Initials	Flag
Group P - Volatile Organic Compounds								
Hexachlorobutadiene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Isopropylbenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Methylene Chloride	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
MTBE	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Naphthalene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
n-Butylbenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
n-Propylbenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
sec-Butylbenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Styrene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
tert-Butylbenzene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Tetrachloroethylene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Toluene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
trans-1,3 Dichloropropylene	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Trichloroethylene	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Trichlorofluoromethane	ND	1	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Vinyl chloride	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	
Xylene - Total	ND	0.5	ug/L	EPA 524.2	4/16/2007	10:46	RB	

Abbreviations

ND = Not detected at the corresponding Minimum Reporting Limit.
1 mg/L = one milligram per liter = 1 part per million.
1 ug/L = one microgram per liter = 1 part per billion.

Flag Descriptions

APH = The test was performed past the EPA specified holding time.
H = A high bias is suspected.
I = The analysis experienced a matrix interference which may have affected the results.
J = The result is positive and estimated. The result falls between the Minimum Reporting Limit and the Method Detection Limit.
L = A low bias is suspected.
O = The analysis was performed by an outside contract laboratory.
R = The value represents a reanalysis.
SPH = The sample was submitted for analysis past the EPA specified holding time.

6100 South Stratler
Murray, UT 84107
801-262-7299 Office
801-262-7378 Fax

Table 19-2
Estimated Storage Characteristics of Navajo Sandstone[1]

Groundwater Basin	Average Thickness (feet)	Area (square miles)	Percent Saturated	Estimated Effective Porosity [3] (percent)	Volume of Groundwater in transient storage [4] (millions of acre-feet)	Assumed Specific Yield [5] (percent)	Water [2] in Transient Storage Assuming Complete Drainage (millions of acre-feet)	Water in Upper 100 Feet of Aquifer (millions of acre-feet)
San Rafael Swell	412	2,300	87	18	94	9	42 [2]	12
Lower Dirty Devil River	800	2,580	75	20	198	9	89 [2]	11
Kaiparowits Plateau	1,600	2,150	83	25	434	10	190 [2]	11

[1] Information gathered and published by the U. S. Geological Survey. (Technical Publication #s 78, 68, 81)
[2] The values stated for water recoverable from storage are calculated based on hydrologic theory. Actual recoverable amounts would be less because of various physical limitations, including depth to aquifer, well spacing and well yields, and various economic, legal and environmental constraints such as land ownership.
[3] Effective porosity is defined as the volume of void spaces through which water can travel in a rock or sediment divided by the total volume of the rock or sediment.
[4] Transient storage is the amount of water which is moving through an aquifer, analogous to the “active storage” of a surface reservoir and does not include isolated water or “dead storage”.
[5] Specific yield is the ratio of the volume of water that will drain under the influence of gravity to the volume of saturated rock. This groundwater may not be economically or legally recoverable.

Appendix D

Fact Sheets

Partnership for the Environment

Utah Department of Environmental Quality

Septic Tank/Drainfield System Fact Sheet

What Are The Potential Hazards?

Septic systems can contaminate ground water if they are misused, improperly maintained, or improperly constructed. The major contaminant discharged from septic systems is disease-causing germs. These germs (bacteria and viruses) - can cause many human diseases. Another contaminant discharged from septic systems is nitrogen in the form of nitrate. If the nitrate level of drinking water is too high, infants, up to the age of six months old, can develop a fatal disease called blue baby syndrome (methemoglobenemia). Additionally, if toxic chemicals are disposed in a septic system, they can percolate through the drainfield and into the ground water.

How Does A Septic Tank/Drainfield System Work?

The basic septic system is composed of a septic tank followed by a drainfield. Wastewater flows out of the house and into the septic tank through the building sewer pipe. Once in the septic tank, most solids in the wastewater settle to the bottom of the tank to form a sludge layer. Other solids float and form a scum layer on top of the wastewater. Some decomposition of solid material takes place here, but the primary function of a septic tank is to trap solids and prevent them from entering the drainfield.

Wastewater treatment is restricted to a rather thin zone of unsaturated soil underlying the drainfield. Many of the harmful bacteria and microbes are filtered out as the wastewater passes through this soil. Some of the smaller microbes (viruses) and nutrients such as phosphorus and some forms of nitrogen are trapped and held (adsorbed) by soil particles. Once the effluent reaches the groundwater table, little treatment occurs. Soils can differ markedly in their pollutant removal efficiency. The ability to which soil can remove pollutants in the wastewater determines how many impurities will eventually reach the groundwater beneath the drainfield.

Site Evaluation And Construction

Current rules require a comprehensive evaluation of the soil and ground water before a septic system can be permitted for construction in a given location. This evaluation must be reviewed and approved by the local health department. The rules require that the bottom of the drainfield trenches be placed at least 12 inches (preferably 24 inches) above the water table. Additionally, there must be adequate amounts of unsaturated soil beneath the trenches to allow sufficient treatment of the wastewater.

Site Considerations

- Trees and deep-rooted shrubs should be as far away from the system as possible.
- Keep the water that runs off of foundation drains, gutters, driveways, and other paved areas away from the drainfield of your septic system.

- Keep the soil over the drainfield covered with grass to prevent soil erosion.
- Don't drive vehicles over the system.
- Don't cover the tank or drainfield with concrete or asphalt and don't build over these areas.

Proper Disposal Practices

- Use only a moderate amount of cleaning products and do not pour solvents or other household hazardous waste down the drains.
- Garbage disposals should not be used because they tend to overload the system with solids. If you have one, you should severely limit its use.
- Do not pour grease or cooking oil down the sink.
- Do not put items down the drain that may clog the septic tank or other parts of the system. These items include cigarette butts, sanitary napkins, tampons, condoms, disposable diapers, paper towels, egg shells, and coffee grounds.

Water Conservation

There are limits to the amount of wastewater a septic system can treat. If you overload the system, wastewater may backup into your home or surface over your drainfield. Problems caused by using too much water can occur periodically throughout the year or be seasonal. For example, the soil beneath your drainfield is wetter in the spring than it is in the summer and its capacity to percolate wastewater is somewhat diminished. If you wash all your laundry in one day, you may have a temporary problem caused by overloading the soil's capacity to percolate wastewater for that day. To reduce the risk of using too much water, try the following:

- Use 1.6 gallons (or less) per flush toilets.
- Fix leaking toilets and faucets immediately.
- Use faucet aerators at sinks and flow reducing nozzles at showers.
- Limit the length of your shower to 10 minutes or less.
- Do not fill the bathtub with more than 6 inches of water.
- Do not wash more than one or two loads of laundry per day.
- Do not use the dishwasher until it is full.

Septic Tank Cleaning

It is recommended that the solids that collect in your septic tank be pumped out and disposed at an approved location every three to five years. If not removed, these solids will eventually be discharged from the septic tank into the drainfield and will clog the soil in the absorption trenches. If the absorption trenches are clogged, sewage will either back up into the house or surface over the drainfield. If this happens, pump the tank will not solve the problem and a new drainfield will probably need to be constructed on a different part of the lot.

For More Information, Contact:

Division of Drinking Water, Source Protection Program - (801) 536-4200
Division of Water Quality - (801) 538-6146
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477
Environmental Hotline - 1-800-458-0145

Partnership for the Environment

Utah Department of Environmental Quality

Pesticides Fact Sheet

What Are The Potential Hazards?

Pesticides applied to plants during crop, lawn, and garden maintenance may leach into the ground water and cause contamination. Proper storage, mixing, application, spill cleanup, watering, and disposal procedures should be included in pesticide best management practices.

Storing Pesticides

The fewer pesticides you buy, the fewer you will have to store. Therefore, only purchase the amount and kind of pesticide that is needed. Pesticides should always be stored in sound, properly labeled, original containers. ***Sound containers are the first defense against spills and leaks.***

- Ensure that there are no holes, tears, or weak seams in the containers and that the label is readable.
- Pesticides should be stored in locked, dry cabinets.
- Be sure to store dry products above liquids to prevent wetting from spills.
- Storage and mixing areas should not be located near floor drains of any kind.
- Storage facilities should have secondary containment, such as a berm or dike, which will hold spills or leaks at:
    1. 10% of the total volume of the containers, or
    2. 110% of the volume of the largest container, whichever is larger.

Mixing Pesticides

- Mix pesticides on an impermeable surface, such as concrete, so any spills will be contained.
- Mix only the amount that you will use:
    1. Measure the total square feet you intend to treat.
    2. Read the label on the pesticide container and follow the instructions. (These are often given in terms of amount of pesticide to use per thousand square feet.)
    3. By properly measuring and calculating, there should be little or no pesticide left in the spray tank when the job is finished and it will be applied at the recommended rate.

Applying Pesticides

Pesticides are used to kill or control weeds (herbicides), insects (insecticides) and fungi (fungicides) that attack plants. Some of these pesticides can move through the soil and into the ground water. Guidelines for the safe use of pesticides are listed below:

- Be willing to accept a low level of weed, insect, and plant disease infestation.

- Use pesticides only when absolutely necessary.
- Identify pests correctly. Use the proper pesticides.
- Read and follow the directions printed on the container labels. Remember, *the label is the law.*
- Calibrate your spreader and sprayer to keep from applying too much pesticide.
- Do not spray or apply pesticides near irrigation wells. Wells are conduits to the ground water.
- Do not spray or apply pesticides near your walks and driveway. This prevents them from washing off into the storm drain system.

Cleaning Up Spills

- Dry formulated pesticide spills should be swept up and applied to crops, lawns, and gardens at the rate specified on the label.
- Liquid pesticide spills should be soaked up using absorbent material (such as, soil, sawdust, and cat litter). The contaminated absorbent material should then be put in a sealed container and taken to a household hazardous waste collection site.

Watering

Over-watering your plants can cause excess water to move through the soil. This water can carry pesticides that can contaminate the ground water. The best way to avoid over-watering is simply to measure how much you are adding. Contact your county Extension Service to determine the best way to calculate how much water your plants need and how to measure the amount you are applying.

Disposing of Pesticides

If the pesticide was properly measured and mixed, there should be little or no spray left in the tank. The little that may be left can be safely sprayed over the area that was treated until it is gone. Disposal of "empty" pesticide containers and unused pesticides should be handled as follows:

- If you are using liquid pesticides, rinse the container three times. Be sure to pour the rinsing into your sprayer and not down a drain or onto the ground. Containers which have been emptied and rinsed can be discarded in the trash.
- Unused pesticides in their original containers can be recycled at household hazardous waste collection sites.

For More Information, Contact:

Division of Drinking Water, Source Protection Program - (801) 536-4200
Department of Agriculture - (801) 538-7100
Environmental Hotline - 1-800-458-0145
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477

Partnership for the Environment

Utah Department of Environmental Quality

Household Hazardous Waste Fact Sheet

What is Household Hazardous Waste?

Many hazardous products and chemicals such as cleaners, oils and pesticides are used in the home every day. When discarded, these products are called household hazardous waste (HHW). HHWs are discarded materials and products that are ignitable, corrosive, reactive, toxic or otherwise listed as hazardous by the EPA. Products used and disposed of by a typical residence may contain more than 100 hazardous substances including:

- Batteries
- Cleaners
- Cosmetics
- Fluorescent light bulbs
- Glues
- Heating oil
- Insecticides and pesticides
- Ink
- Medicines
- Motor oil and automotive supplies
- Paints, thinners, stains and varnishes
- Polishes
- Swimming pool chemicals
- Smoke detectors
- Thermometers
- Fuel

HHW is a Serious Threat

The U.S. Environmental Protection Agency estimates the average American household generates 20 pounds of HHW each year. As much as 100 pounds of HHW can accumulate in the home and remain there until the resident moves or undertakes a thorough "spring cleaning."

Since the chemicals found in HHW can cause soil and groundwater contamination, generate hazardous emissions at landfills and disrupt water treatment plants, it is important to dispose of HHW properly. Many solid waste treatment facilities are currently required to screen for HHW to avoid operating under restrictive hazardous waste laws. Furthermore, many communities may be required to establish a HHW collection program in order to qualify for permits to manage storm water.

Safe Handling Tips

The best way to handle household hazardous materials is to completely use the product before disposing of the container. If this is not possible, then the next alternative is to return unused portions to your community household hazardous waste clean-up day. Keep products in their original package with all labels intact. If the container is leaking, place it in a thick plastic bag. Pack the products in a plastic-lined cardboard box to prevent leaks and breakage.

Household hazardous waste clean-up days are for household wastes only. No industrial or commercial wastes and no containers larger than five gallons are accepted. Explosives, radioactive

material and medical wastes are also unacceptable.

HHW can be dangerous to people and pets who come in contact with them. HHW can endanger water supplies, damage sewage treatment systems, and cause other environmental damage. Only use the products as directed. **DO NOT:**

- ❍ Flush HHWs down the toilet
- ❍ Pour HHWs down the sink
- ❍ Pour HHWs down a storm drain
- ❍ Pour HHWs on the ground

Contact your local health department or the Division of Solid and Hazardous Waste to determine whether your community has a household hazardous waste collection program.

Identify HHW

Reduce the amount of potentially hazardous products in your home and eliminate what you throw away by following these easy steps:

1. Before you buy:

- ❍ Read the labels and be aware of what they mean.
- ❍ Look for these words on labels; they tell you what products may need special handling or disposal.

Caution	Flammable
Combustible	Poison
Corrosive	Toxic
Danger	Volatile
Explosive	Warning

- ❍ Select a product best suited for the job.
- ❍ Buy only what you can use entirely.

2. After you buy:

- ❍ Read label precautions and follow directions for safe use.
- ❍ Recycle/dispose of empty containers properly.
- ❍ Share what you can't use with friends or neighbors.
- ❍ Store properly.
- ❍ Use recommended amounts; more is not necessarily better.
- ❍ Use the child-resistant closures and keep them on tightly.

For More Information, Contact:

Division of Solid & Hazardous Waste - (801) 538 - 6170
Division of Drinking Water, Source Protection Program - (801) 536-4200
Environmental Hotline - 1-800-458-0145
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477

Partnership for the Environment

Utah Department of Environmental Quality

Fertilizer Fact Sheet

What Are The Potential Hazards?

Fertilizer applied to plants during crop, lawn, and garden maintenance may leach into the ground water and cause contamination. The main constituent in fertilizer is usually nitrogen. If the nitrate level of drinking water is too high, infants, up to the age of six months, can develop a fatal disease called blue baby syndrome (methemoglobenemia). Drinking water that contains 10 milligrams of nitrate-nitrogen per liter of water exceeds the drinking water standard and should not be used, especially for infant formula. Proper storage, application, and watering procedures should be included in fertilizer best management practices to prevent contamination of ground water.

Storing Fertilizers

The less fertilizer you buy, the less you will have to store. Therefore, only purchase the amount and kind of fertilizer that you need.

- Fertilizer should be stored in locked, dry cabinets.
- Keep fertilizer and pesticides on separate shelves.
- Don't store fertilizer with combustibles, such as gasoline or kerosine, because of explosion hazards.

Application Precautions

The chemical in fertilizer that can most easily pollute ground water is a form of nitrogen called nitrate. Nitrate moves readily in soil to the ground water strata. The best way to prevent the movement of nitrate into the ground water is to apply no more nitrogen than the crops, grass, garden plants, shrubs, or trees can use during the time that the plants are growing.

- Calibrate your spreader and sprayer to keep from applying too much fertilizer.
- Load fertilizer spreaders on the driveway or other hard surfaces so any spills can easily be swept up. Fertilizer that spills should be swept up and applied to the lawn or garden at the right time and amount. This allows the fertilizer to grow plants instead of washing off into the storm drain system and ultimately contaminating nearby streams and lakes.
- If you are using liquid fertilizer on your turf, add fertilizer to the spray tank while on the lawn. This way, if you spill the fertilizer, it will be used by the plants and not run off into the storm drain system.
- Do not spray or apply fertilizer near irrigation wells. Wells are conduits to the ground water.

Application Rates For Lawns

Utah State University's Extension Service recommends the following for Utah lawns: "It is important to fertilize on a regular basis every four to six weeks to maintain an attractive lawn. Begin

when lawns start to green in the spring, mid to late April. Earlier applications may cause a lawn to become greener faster, but may also increase spring disease problems. Summer applications of nitrogen fertilizer will not burn lawns, if you apply them to dry grass and water immediately. Fall applications are important for good winter cold tolerance, extended fall color, and fast spring green-up. A complete fertilizer containing nitrogen, phosphorus and potassium should be applied in the fall every three to four years. This will prepare the lawn for winter conditions and allow the phosphorus to penetrate into the root zone by the next growing season.

For a well-kept lawn in Utah, apply 1 pound of available nitrogen per 1,000 square feet each four to six weeks throughout the growing season. The following chart indicates how much of various fertilizer will supply one pound of nitrogen."

%N on Label	Pounds of Fertilizer Per 1000 Square Feet
12-15	7-8
18-21	5-5 ½
24-28	3 ½-4
30-34	3-3½
45-46	2-2 ¼

Types of Plants

One of the best ways to protect your ground water is to use plants that are drought-tolerant and that are adapted to your area. Drought-tolerant or low-water-use plants can continue to survive once they are established, even during times of little rainfall. Because you do not have to water these plants, there is less chance that nitrate and pesticides will be carried with the water through the soil and into the ground water.

If low-water-use plants are not practical, then try to use medium water use plants. Water these plants only when they begin to show drought stress. Some plants will wilt when they are drought-stressed, while other plants will show marginal leaf burn.

Watering

Over-watering plants can cause excess water to move through the soil. This water can flush fertilizer away from the root zone of your plants and into the ground water. The best way to avoid over-watering is simply to measure how much you are adding. Contact your county Extension Service to determine the best way to calculate how much water your plants need and how to measure the amount you are applying.

For More Information, Contact:

Division of Drinking Water, Source Protection Program - (801) 536-4200
Department of Agriculture - (801) 538-7100
Environmental Hotline - 1-800-458-0145
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477

Partnership for the Environment

Utah Department of Environmental Quality

Pollution Prevention for Vehicle Maintenance & Repair Industry

Background

Vehicle repair shops generate regulated waste, either from the services they provide, such as fluid replacement, or from operations they perform, such as parts washing. Some common waste types include:

- Degreasers
- Engine fluids (oil, antifreeze)
- Floor dust
- Floor wash water
- Lead acid batteries
- Metal parts/scrap
- Oily waste sump sludge
- Spent solvents
- Paints and thinners
- Paper products (masking paper, cardboard, office paper.)
- Rags and absorbents
- Refrigerants
- Tires

Here are some options vehicle maintenance and repair companies can use to reduce wastes.

Train Employees to use Good Housekeeping Practices

- Implement spill prevention measures to reduce products from entering the environment.
- Perform preventative maintenance on equipment and vehicles.
- Check incoming vehicles for leaking fluids. Use drip pans to prevent spillage.
- Prevent non-hazardous material from getting contaminated by segregating waste streams.
- Monitor your inventory in storage to reduce accumulation of over-age products.
- Implement a “first-in first-out” policy.

Substitute Materials

- Look for ways to replace solvents with water based cleaners.
- Substitute detergent-based solutions for caustic solutions when cleaning.
- Substitute non-asbestos brake lining for asbestos brake lining.
- Purchase materials in non-aerosol form.
- Use biodegradable floor cleaners.
- Use non-chlorinated brake cleaners.

Modify Processes

- ❍ Prerinse parts with spent cleaning solution.
- ❍ Remove parts slowly after immersion in solvent solution to prevent spillage.
- ❍ Use a still rinse solvent sink rather than a free running rinse.
- ❍ Cover or plug solvent sinks when not in use to prevent evaporation.
- ❍ Replace solvent parts washers with a hot water washer or jet spray.
- ❍ Place cleaning equipment in a convenient location near the service bays to reduce drips and spills.
- ❍ Change spray painting process to high volume, low pressure process which will minimize paint lost due to overspray.

Recycle

- ❍ Recyclable waste streams should be segregated to prevent cross-contamination.
- ❍ Oils and antifreeze should be collected and recycled.
- ❍ Lease or purchase solvent sinks and recycle solvent on or off site.
- ❍ Send tires, batteries, and metal parts to a recycler.
- ❍ Contract a linen service which will supply clean rags and collect dirty ones for washing.
- ❍ Purchase a recycling system to recover refrigerant. Reuse containers within the facility or through a drum salvage company.
- ❍ An oil/water separator should be used before water is diverted to sewer.

For More Information, Contact:

Division of Solid & Hazardous Waste - (801) 538 - 6170
Divion of Drinking Water, Source Protection Program - (801) 536-4200
Division of Water Quality - (801) 538-6146
Small Business Assistance Program - (801) 536-4479
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477
Environmental Hotline - 1-800-458-0145

Appendix E

Land Use Letters

JONES & DEMILLE ENGINEERING

May 29, 2007

Gary Hall
Hanksville Field Office Manager
Bureau of Land Management
P.O. Box 99
Hanksville, Utah 84734

RE: Tony M Mine Drinking Water Source Protection Plan

Dear Mr. Hall,

As you are aware, Denison Mines is in the process of reopening the Tony M Uranium Mine near Ticaboo Town in Garfield County, Utah. As a part of this process they would like to redevelop the existing Tony M Mine water well as the culinary water source for the employees of the mining operation. In order to redevelop the water well for culinary purposes a Drinking Water Source Protection Plan (DWSPP) needs to be prepared. The DWSPP requires a plan for controlling potential contamination sources that may be developed within the Drinking Water Source Protection Management Area (see exhibit). Since the Well Management Area is almost entirely located on BLM administered lands we are requesting your assistance in controlling future potential contamination sources or pollution sources within the Well Management Area. The Well Management Area includes all land within a two-mile radius from the well. I have attached a letter similar to the one being requested for you to use if necessary in preparing a response.

Please don't hesitate to call if you have any questions or if you need additional information.

Sincerely,

Jones & DeMille Engineering

Ryan Jolley

Ryan Jolley

cc: chrono
0701-075

1535 South 100 West
Richfield, Utah 84701

Phone: 435-896-8266
Fax: 435-896-8268

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Richfield Field Office
150 East 900 North
Richfield, Utah 84701
http://www.blm.gov

TAKE PRIDE IN AMERICA

Received
JUN 11 2007
Jones & DeMille Engineering

IN REPLY REFER TO:
3809/7200
(U-050)
UTU-80023

June 8, 2007

Ryan Jolley
Jones & DeMille Engineering
1535 South 100 West
Richfield, UT 84701

Dear Mr. Jolley:

I received your letter dated May 29, 2007 in which you outlined a proposal by Dension Mines Corporation to redevelop and existing water well at the Tony M Mine, for culinary use. You explained in order to redevelop the existing water well for culinary water purposes a Drinking Water Source Protection Plan needs to be prepared. You also enclosed a map of the proposed protection zone. I noticed on the map that the legal description stated Section 21 and Range 11 West. I think that the legal description is actually Range 11 East and the well is actually located in Section 16. Public lands within the protection zone delineated on the map are presently used primarily for livestock grazing, wildlife habitat, dispersed recreation, and mining. Mining activities are expected to increase in the future.

It is our understanding that, although said protection zone is proposed across the delineated public land managed by the Bureau of Land Management (BLM), it is for the protection of an existing well located on School and Institutional Trust Lands Administration (SITLA) land legally described as being within the SW¼SE¼ of Section 16, T. 35S., R. 11E., Salt lake Meridian, Utah. Dension Mines Corporation holds a lease number 49703 from SITLA for all of Section 16.

On February 3, 2000 the Interior Department Regional Solicitor and the Bureau of Land Management (BLM) Utah State Office (USO) was requested to review the Environmental Quality, Division of Drinking Water's Drinking Water Source Protection Plan, R309-113 of the Utah Administrative Code and to offer an opinion as to the official BLM position on Land Use Agreement applications.

Until we receive further direction from the Solicitor and BLM USO, we hereby submit the following as the intent of the BLM Richfield Field Office (RFO) for the consideration of the Dension Mines Corporation water well in regards to protection of the existing well water source.

The BLM agrees to work with Dension Mines Corporation to assure the protection of their water source to the extent provided for by applicable law, regulation, and BLM policy. Because lands that BLM administers within the proposed protection zone are unreserved public land, they are subject to

valid existing rights and applicable mineral laws and other land law statutes. All uses that could occur on these lands may not require the filing of a specific application or other land use authorization request. Therefore, specific written authorization from the BLM is not always required. On proposals requiring a specific application/request for authorization and a specific written authorization, the BLM is required to analyze the impacts of such proposals including impacts on water quality, as part of the processing procedures prior to issuance of a land use authorization.

The subject source protection zone has not been reviewed for possible existing or future contamination sources. The existing land use plan has been reviewed and there are no decisions in the plan that would permit contamination of said water source or proposals to dispose of any tract of land within the protection zone. However, the RFO makes no claims nor provides any warranties that existing uses or valid existing rights meet the requirements of rule R309-113 of the Utah Administrative Code.

Sincerely,

Gary L. Hall

Gary L. Hall
Assistant Field Office Manager

JONES & DEMILLE ENGINEERING

May 30, 2007

Lou Brown
Resource Specialist
Utah State Trust Lands
130 North Main
Richfield, UT 84701

RE: Tony M Mine Drinking Water Source Protection Plan

Dear Mr. Brown,

As you are aware, Denison Mines is in the process of reopening the Tony M Uranium Mine near Ticaboo Town in Garfield County, Utah. As a part of this process they would like to redevelop the existing Tony M Mine water well as the culinary water source for the employees of the mining operation. In order to redevelop the water well for culinary purposes a Drinking Water Source Protection Plan (DWSPP) needs to be prepared. The DWSPP requires a plan for controlling potential contamination sources that may be developed within the Drinking Water Source Protection Management Area (see exhibit). Since the Well Management Area is almost entirely located on BLM administered lands we are requesting your assistance in controlling future potential contamination sources or pollution sources within the Well Management Area. The Well Management Area includes all land within a two-mile radius from the well. I have attached a letter similar to the one being requested for you to use if necessary in preparing a response.

Please don't hesitate to call if you have any questions or if you need additional information.

Sincerely,

Jones & DeMille Engineering

Ryan Jolley

Ryan Jolley

cc: chrono
0701-075

1535 South 100 West
Richfield, Utah 84701

Phone: 435-896-8266
Fax: 435-896-8268

State of Utah

School and Institutional
TRUST LANDS ADMINISTRATION

Jon M. Huntsman, Jr.
Governor

Kevin S. Carter
Director

Central Area Office
130 North Main Street
Richfield, Utah 84701-2154
435-896-6494
435-896-6158 (Fax)
http://www.trustlands.com

June 1, 2007

Ryan Jolley
Jones and DeMille Engineering
1535 South 100 West
Richfield, UT 84701

RE: Tony M Mine Drinking Water Source Protection Plan

Dear Mr. Jolley:

We have received your letter dated May 30, 2007, requesting our cooperation to protect the drinking water well management area for the Tony M Mine uranium mine. We understand that this request is necessary for completing the Source Protection Plan for the Tony M Mine water well.

The existing Tony M. Mine water well is located within Section 16 Township 35 South Range 11 East SLB&M. Section 16 is entirely owned by the Utah School and Institutional Trust Lands Administration (SITLA). All of the land surrounding the SITLA parcel is administered by the Bureau of Land Management. The parcel of land owned by SITLA is currently managed for grazing of livestock and mineral development.

We understand the importance of protecting drinking water sources. We will take into consideration the location of this drinking water source when planning future projects in the area.

Please contact me at 435-896-6494 if you have any questions.

Sincerely,

Louis Brown
Resource Specialist

Appendix F

Public Notification and Recordkeeping Table

Denison Mines (USA) Corp.
1050 17th Street, Suite 950
Denver, Colorado 80265
303-628-7798

Dear Citizen:

The Drinking Water Source Protection Plan for the Tony M Mine Well #2 is available for your review. It contains information about source protection zones, potential contamination sources, and management strategies to protect our drinking water. The only potential contamination sources identified within the protection area are those associated with the uranium mining operation of the Tony M Mine.

Our well has a low susceptibility to potential contamination. We have also developed management strategies to further protect our well from contamination. Please contact us at Denison Mines (USA) Corp. 1050 17th street, Suite 950, Denver, CO 80265, 303-628-7798 if you have any questions or concerns about our source protection plan.

Sincerely,

Denison Mines (USA) Corp.

Recordkeeping Action Items and Dates

Action Items	Referenced Section	Required Completion Date	Actual Completion Date
Implement Drinking Water SPP	7.0	At the end of construction of the new water system	
Include Fact Sheets in Mine Operational Procedures	5.0	Upon Plan implementation	June 14, 2007
Annual Review of Existing and Proposed Future PCSs	7.0	Annually prior to February 15th	
Send Public Notification Form	11.0	With next Consumer Confidence Report	

Appendix G

Rules

R309-600-7. DWSP Plans.

(1) Each PWS shall develop, submit, and implement a DWSP Plan for each of its ground-water sources of drinking water.

Required Sections for DWSP Plans - DWSP Plans should be developed in accordance with the "Standard Report Format for Existing Wells and Springs." This document may be obtained from DDW. DWSP Plans must include the following seven sections:

(a) DWSP Delineation Report - A DWSP Delineation Report in accordance with R309-600-9(6) is the first section of a DWSP Plan.

(b) Potential Contamination Source Inventory and Assessment of Controls - A Prioritized Inventory of Potential Contamination Sources and an assessment of their controls in accordance with R309-600-10 is the second section of a DWSP Plan.

(c) Management Program to Control Each Preexisting Potential Contamination Source - A Management Program to Control Each Preexisting Potential Contamination Source in accordance with R309-600-11 is the third section of a DWSP Plan.

(d) Management Program to Control or Prohibit Future Potential Contamination Sources - A Plan for Controlling or Prohibiting Future Potential Contamination Sources is the fourth section of a DWSP Plan. This must be in accordance with R309-600-12, consistent with the general provisions of this rule, and implemented to an extent allowed under the PWS's authority and jurisdiction.

(e) Implementation Schedule - Each PWS shall develop a step-by-step implementation schedule which lists each of its proposed land management strategies with an implementation date for each strategy.

(f) Resource Evaluation - Each PWS shall assess the financial and other resources which may be required for it to implement each of its DWSP Plans and determine how these resources may be acquired.

(g) Recordkeeping - Each PWS shall document changes in each of its DWSP Plans as they are continuously updated to show current conditions in the protection zones and management areas. As a DWSP Plan is executed, the PWS shall document any land management strategies that are implemented. These documents may include any of the following: ordinances, codes, permits, memoranda of understanding, public education programs, public notifications, and so forth.

(2) DWSP Plan Administration - DWSP Plans shall be submitted, corrected, retained, implemented, updated, and revised according to the following:

(a) Submitting DWSP Plans - Each PWS shall submit a DWSP Plan to DDW in accordance with the schedule in R309-600-3 for each of its ground-water sources of drinking water.

(b) Correcting Deficiencies - Each PWS shall correct any deficiencies in a disapproved DWSP Plan and resubmit it to DDW within 90 days of the disapproval date.

(c) Retaining DWSP Plans - Each PWS shall retain on its premises a current copy of each of its DWSP Plans.

(d) Implementing DWSP Plans - Each PWS shall begin implementing each of its DWSP Plans in accordance with its schedule in R309-600-7(1)(e), within 180 days after submittal if they are not disapproved by the Executive Secretary.

(e) Updating and Resubmitting DWSP Plans - Each PWS shall update its DWSP Plans as often as necessary to ensure they show current conditions in the DWSP zones and management areas. Updated plans also document the implementation of land management strategies in the recordkeeping section. Actual copies of any ordinances, codes, permits, memoranda of understanding, public education programs, bill stuffers, newsletters, training session agendas, minutes of meetings, memoranda for file, etc. must be submitted with the recordkeeping section of updated plans. DWSP Plans are initially due according to the schedule in R309-600-3. Thereafter, updated DWSP Plans are due every six years from their original due date. This applies even though a PWS may have been granted an extension beyond the original due date.

(f) Revising DWSP Plans - Each PWS shall submit a revised DWSP Plan to DDW within 180 days after the reconstruction or redevelopment of any ground-water source of drinking water which addresses changes in source construction, source development, hydrogeology, delineation, potential contamination sources, and proposed land management strategies.

R309-600-8. DWSP Plan Review.

(1) The Executive Secretary shall review each DWSP Plan submitted by PWSs and "concur," "concur with recommendations," "conditionally concur" or "disapprove" the plan.

(2) The Executive Secretary may "disapprove" DWSP Plans for any of the following reasons:

(a) An inaccurate DWSP Delineation Report, a report that uses a non-applicable delineation method, or a DWSP Plan that is missing this report or any of the information and data required in it (refer to R309-600-9(6));

(b) an inaccurate Prioritized Inventory of Potential Contamination Sources or a DWSP Plan that is missing this report or any of the information required in it (refer to R309-600-10(1));

(c) an inaccurate assessment of current controls (refer to R309-600-10(2));

(d) a missing Management Program to Control Each Preexisting Potential Contamination Source which has been assessed as "not adequately controlled" by the PWS (refer to R309-600-11(1));

(e) a missing Management Program to Control or Prohibit Future Potential Contamination Sources (refer to R309-600-12);

(f) a missing or incomplete Implementation Schedule, Resource Evaluation, Recordkeeping Section, Contingency Plan, or Public Notification Plan (refer to R309-600-7(1)(e)-(g), R309-600-14, and R309-600-15).

(3) The Executive Secretary may "concur with recommendations" when PWSs propose management programs to control preexisting potential contamination sources or management programs to control or prohibit future potential contamination sources for existing or new drinking water sources which appear inadequate or ineffective.

(4) The Executive Secretary may "conditionally concur" with a DWSP Plan or PER. The PWS must implement the conditions and report compliance the next time the DWSP Plan is due and submitted to DDW.

R309-600-9. Delineation of Protection Zones and Management Areas.

(1) PWSs shall delineate protection zones or a management area around each of their ground-water sources of drinking water using the Preferred Delineation Procedure or the Optional Two-mile Radius Delineation Procedure. The hydrogeologic method used by PWSs shall produce protection zones or a management area in accordance with the criteria thresholds below. PWSs may also choose to verify protected aquifer conditions to reduce the level of management controls applied in applicable protection areas.

(2) Reports must be prepared by a qualified licensed professional - A submitted report which addresses any of the following sections shall be stamped and signed by a professional geologist or professional engineer:

(a) A Delineation Report for Estimated DWSP Zones produced using the Preferred Delineation Procedure, as explained in R309-600-13(2)(a);

(b) a DWSP Delineation Report produced using the Preferred Delineation Procedure, as explained in R309-600-9(3)(a) and (6)(a);

(c) a report to verify protected aquifer conditions, as explained in R309-600-9(4) and (7);

(d) a report which addresses special conditions, as explained in R309-600-9(5); or

(e) a Hydrogeologic Report to Exclude a Potential Contamination Source, as explained in R309-600- 9(6)(b)(ii).

(3) Criteria Thresholds for Ground-water Sources of Drinking Water:

(a) Preferred Delineation Procedure - Four zones are delineated for management purposes:

(i) Zone one is the area within a 100-foot radius from the wellhead or margin of the collection area.

(ii) Zone two is the area within a 250-day ground-water time of travel to the wellhead or margin of the collection area, the boundary of the aquifer(s) which supplies water to the ground-water source, or the ground-water divide, whichever is closer. If the available data indicate a zone of increased ground-water velocity within the producing aquifer(s), then time-of-travel calculations shall be based on this data.

(iii) Zone three (waiver criteria zone) is the area within a 3-year ground-water time of travel to the wellhead or margin of the collection area, the boundary of the aquifer(s) which supplies water to the ground-water source, or the ground-water divide, whichever is closer. If the available data indicate a zone of increased ground-water velocity within the producing aquifer(s), then time-of-travel calculations shall be based on this data.

(iv) Zone four is the area within a 15-year ground-water time of travel to the wellhead or margin of the collection area, the boundary of the aquifer(s) which supplies water to the ground-water source, or the ground-water divide, whichever is closer. If the available data indicate a zone of increased ground-water velocity within the producing aquifer(s), then time-of-travel calculation shall be based on this data.

(b) Optional Two-mile Radius Delineation Procedure - In place of the Preferred Delineation Procedure, PWSs may choose to use the Optional Two-mile Radius Delineation Procedure to delineate a management area. This procedure is best applied in remote areas where few if any potential contamination sources are located. Refer to R309-600-6(1)(q) for the definition of a management area.

(4) Protected Aquifer Classification - PWSs may choose to verify protected aquifer conditions to reduce the level of management controls for a public-supply well which produces water from a protected aquifer(s) or to meet one of the requirements of a VOC or pesticide susceptibility waiver (R309-600-16(4)). Refer to R309-600-6(1)(x) for the definition of a "protected aquifer."

(5) Special Conditions - Special scientific or engineering studies may be conducted to support a request for an exception (refer to R309-600-4) due to special conditions. These studies must be approved by the Executive Secretary before the PWS begins the study. Special studies may include confined aquifer conditions, ground-water movement through protective layers, wastewater transport and fate, etc.

(6) DWSP Delineation Report - Each PWS shall submit a DWSP Delineation Report to DDW for each of its ground-water sources using the Preferred Delineation Procedure or the Optional Two-mile Radius Delineation Procedure.

(a) Preferred Delineation Procedure - Delineation reports for protection zones delineated using the Preferred Delineation Procedure shall include the following information and a list of all sources or references for this information:

(i) Geologic Data - A brief description of geologic features and aquifer characteristics observed in the well and area of the potential protection zones. This should include the formal or informal stratigraphic name(s), lithology of the aquifer(s) and confining unit(s), and description of fractures and solution cavities (size, abundance, spacing, orientation) and faults (brief description of location in or near the well, and orientation). Lithologic descriptions can be obtained from surface hand samples or well cuttings; core samples and laboratory analyses are not necessary. Fractures, solution cavities, and faults may be described from surface outcrops or drill logs.

(ii) Well Construction Data - If the source is a well, the report shall include the well drillers log, elevation of the wellhead, borehole radius, casing radius, total depth of the well, depth and length of the screened or perforated interval(s), well screen or perforation type, casing type, method of well construction, type of pump, location of pump in the well, and the maximum projected pumping rate of the well. The maximum pumping rate of the well must be used in the delineation calculations. Averaged pumping rate values shall not be used.

(iii) Spring Construction Data - If the source is a spring or tunnel the report shall include a description or diagram of the collection area and method of ground-water collection.

(iv) Aquifer Data for New Wells - A summary report including the calculated hydraulic conductivity of the aquifer, transmissivity, hydraulic gradient, direction of ground-water flow, estimated effective porosity, and saturated thickness of the producing aquifer(s). The PWS shall obtain the hydraulic conductivity of the aquifer from a constant-rate aquifer test and provide the data as described in R309-515-6(10)(b). Estimated effective porosity must be between 1% and 30%. Clay layers shall not be included in calculations of aquifer thickness or estimated effective porosity. This report shall include graphs, data, or printouts showing the interpretation of the aquifer test.

(v) Aquifer Data for Existing Wells - A summary report including the calculated hydraulic conductivity of the aquifer, transmissivity, hydraulic gradient, direction of ground-water flow, estimated effective porosity, and saturated thickness of the producing aquifer(s). The PWS shall obtain the hydraulic conductivity of the aquifer from a constant-rate aquifer test using the existing pumping equipment. Aquifer tests using observation wells are encouraged, but are not required. If a previously performed aquifer test is available and includes the required data described below, data from that test may be used instead. Estimated effective porosity must be between 1% and 30%. Clay layers shall not be included in calculations of aquifer thickness or estimated effective porosity. This report shall include graphs, data, or printouts showing the interpretation of the aquifer test.

If a constant-rate aquifer test is not practical, then the PWS shall obtain hydraulic conductivity of the aquifer using another appropriate method, such as data from a nearby well in the same aquifer, specific capacity of the well, published hydrogeologic studies of the same aquifer, or local or regional ground-water models. A constant-rate test may not be practical for such reasons as insufficient drawdown in the well, inaccessibility of the well for water-level measurements, or insufficient overflow capacity for the pumped water.

The constant-rate test shall:

(A) Provide for continuous pumping for at least 24 hours or until stabilized drawdown has continued for at least six hours. Stabilized drawdown is achieved when there is less than one foot of change of ground-water level in the well within a six-hour period.

(B) Provide data as described in R309-515-6(10)(b)(v) through (vii).

(vi) Additional Data for Observation Wells - If the aquifer test is conducted using observation wells, the report shall include the following information for each observation well: location and surface elevation; total depth; depth and length of the screened or perforated intervals; radius, casing type, screen or perforation type, and method of construction; prepumping ground-water level; the time-drawdown or distance-drawdown data and curve; and the total drawdown.

(vii) Hydrogeologic Methods and Calculations - These include the ground-water model or other hydrogeologic method used to delineate the protection zones, all applicable equations, values, and the calculations which determine the delineated boundaries of zones two, three, and four. The hydrogeologic method or ground-water model must be reasonably applicable for the aquifer setting. For wells, the hydrogeologic method or ground-water model must include the effects of drawdown (increased hydraulic gradient near the well) and interference from other wells.

(viii) Map Showing Boundaries of the DWSP Zones - A map showing the location of the ground-water source of drinking water and the boundary for each DWSP zone. The base map shall be a 1:24,000-scale (7.5-minute series) topographic map, such as is published by the U.S. Geological Survey. Although zone one (100-foot radius around the well or margin of the collection area) need not be on the map, the complete boundaries for zones two, three, and four must be drawn and labeled. More detailed maps are optional and may be submitted in addition to the map required above.

The PWS shall also include a written description of the distances which define the delineated boundaries of zones two, three, and four. These written descriptions must include the maximum distances upgradient from the well, the maximum distances downgradient from the well, and the maximum widths of each protection zone.

(b) Optional Two-Mile Radius Delineation Procedure - Delineation Reports for protection areas delineated using the Optional Two-mile Radius Delineation Procedure shall include the following information:

(i) Map Showing Boundaries of the DWSP Management Area - A map showing the location of the ground- water source of drinking water and the DWSP management area boundary. The base map shall be a 1:24,000-scale (7.5-minute series) topographic map, such as is published by the U.S. Geological Survey. Although zone one (100-foot radius around the well or margin of the

collection area) need not be on the map, the complete two-mile radius must be drawn and labeled. More detailed maps are optional and may be submitted in addition to the map required above.

(ii) Hydrogeologic Report to Exclude a Potential Contamination Source - To exclude a potential contamination source from the inventory which is required in R309-600-10(1), a hydrogeologic report is required which clearly demonstrates that the potential contamination source has no capacity to contaminate the source.

(7) Protected Aquifer Conditions - If a PWS chooses to verify protected aquifer conditions, it shall submit the following additional data to DDW for each of its ground-water sources for which the protected aquifer conditions apply. The report must state that the aquifer meets the definition of a protected aquifer based on the following information:

(a) thickness, depth, and lithology of the protective clay layer;

(b) data to indicate the lateral continuity of the protective clay layer over the extent of zone two. This may include such data as correlation of beds in multiple wells, published hydrogeologic studies, stratigraphic studies, potentiometric surface studies, and so forth; and

(c) evidence that the well has been grouted or otherwise sealed from the ground surface to a depth of at least 100 feet and for a thickness of at least 30 feet through the protective clay layer in accordance with R309-600- 6(1)(x) and R309-515-6(6)(i).

R309-600-10. Potential Contamination Source Inventory and Identification and Assessment of Controls.

(1) Prioritized Inventory of Potential Contamination Sources - Each PWS shall list all potential contamination sources within each DWSP zone or management area in priority order and state the basis for this order. This priority ranking shall be according to relative risk to the drinking water source. The name and address of each commercial and industrial potential contamination source is required. Additional information should include the name and phone number of a contact person and a list of the chemical, biological, and/or radiological hazards associated with each potential contamination source. Additionally, each PWS shall identify each potential contamination source as to its location in zone one, two, three, four or in a management area and plot it on the map required in R309-600-9(6)(a)(viii) or R309-600- 9(6)(b)(i).

(a) List of Potential Contamination Sources - A List of Potential Contamination Sources is found in the "Source Protection User's Guide for Ground-Water Sources." This document may be obtained from DDW. This list may be used by PWSs as a guide to inventorying potential contamination sources within their DWSP zones and management areas.

(b) Refining, Expanding, Updating, and Verifying Potential Contamination Sources - Each PWS shall update its list of potential contamination sources to show current conditions within DWSP zones or management areas. This includes adding potential contamination sources which have moved into DWSP zones or management areas, deleting potential contamination sources which have moved out, improving available data about potential contamination sources, and all other appropriate refinements.

(2) Identification and Assessment of Current Controls - PWSs are not required to plan and implement land management strategies for potential contamination source hazards that are assessed as "adequately controlled." If controls are not identified, the potential contamination source will be considered to be "not adequately controlled." Additionally, if the hazards at a potential contamination source cannot be identified, the potential contamination source must be assessed as "not adequately controlled." Identification and assessment should be limited to one of the following controls for each applicable hazard: regulatory, best management/pollution prevention, physical, or negligible quantity. Each of the following topics for a control must be addressed before identification and assessment will be considered to be complete. Refer to the "Source Protection User's Guide for Ground-Water Sources" for a list of government agencies and the programs they administer to control potential contamination sources. This guide may be obtained from DDW.

(a) Regulatory Controls - Identify the enforcement agency and verify that the hazard is being regulated by them; cite and/or quote applicable references in the regulation, rule or ordinance which pertain to controlling the hazard; explain how the regulatory control prevents ground-water contamination; assess the hazard; and set a date to reassess the hazard.

(b) Best Management/Pollution Prevention Practice Controls - List the specific best management/pollution prevention practices which have been implemented by potential contamination source management to control the hazard and indicate that they are willing to continue the use of these practices; explain how these practices prevent ground-water contamination; assess the hazard; and set a date to reassess the hazard.

(c) Physical Controls - Describe the physical control(s) which have been constructed to control the hazard; explain how these controls prevent contamination; assess the hazard; and set a date to reassess the hazard.

(d) Negligible Quantity Control - Identify the quantity of the hazard that is being used, disposed, stored, manufactured, and/or transported; explain why this amount should be considered a negligible quantity; assess the hazard; and set a date to reassess the hazard.

(3) For the purpose of meeting the requirements of R309-600, the Executive Secretary will consider a PWS's assessment that a potential contamination source which is covered by a permit or approval under one of the regulatory programs listed below sufficient to demonstrate that the source is adequately controlled unless otherwise determined by the Executive Secretary. For all other state programs, the PWS's assessment is subject to review by the Executive Secretary; as a result, a PWS's DWSP Plan may be disapproved if the Executive Secretary does not concur with its assessment(s).

(a) The Utah Ground-Water Quality Protection program established by Section 19-5-104 and R317-6;

(b) closure plans or Part B permits under authority of the Resource Conservation and Recovery Act (RCRA) of 1984 regarding

the monitoring and treatment of ground water;

(c) the Utah Pollutant Discharge Elimination System (UPDES) established by Section 19-5-104 and R317- 8;

(d) the Underground Storage Tank Program established by Section 19-6-403 and R311-200 through R311- 208; and

(e) the Underground Injection Control (UIC) Program for classes I-IV established by Sections 19-5-104 and 40-6-5 and R317-7 and R649-5.

R309-600-11. Management Program to Control Each Preexisting Potential Contamination Source.

(1) PWSs shall plan land management strategies to control each preexisting potential contamination source in accordance with their authority and jurisdiction. Land management strategies must be consistent with the provisions of R309-600, designed to control potential contamination, and may be regulatory or non-regulatory. Each potential contamination source listed on the inventory required in R309-600-10(1) and assessed as "not adequately controlled" must be addressed. Land management strategies must be implemented according to the schedule required in R309- 600-7(1)(e).

(2) PWSs with overlapping protection zones and management areas may cooperate in controlling a particular preexisting potential contamination source if one PWS will agree to take the lead in planning and implementing land management strategies and the remaining PWS(s) will assess the preexisting potential contamination source as "adequately controlled."

R309-600-12. Management Program to Control or Prohibit Future Potential Contamination Sources for Existing Drinking Water Sources.

(1) PWSs shall plan land management strategies to control or prohibit future potential contamination sources within each of its DWSP zones or management areas consistent with the provisions of R309-600 and to an extent allowed under its authority and jurisdiction. Land management strategies must be designed to control potential contamination and may be regulatory or non-regulatory. Additionally land management strategies must be implemented according to the schedule required in R309-600-7(1)(e).

(2) Protection areas may extend into neighboring cities, towns, and counties. Since it may not be possible for some PWSs to enact regulatory land management strategies outside of their jurisdiction, except as described below, it is recommended that these PWSs contact their neighboring cities, towns, and counties to see if they are willing to implement protective ordinances to prevent ground-water contamination under joint management agreements.

(3) Cities and towns have extraterritorial jurisdiction in accordance with Section 10-8-15 of the Utah Code Annotated to enact ordinances to protect a stream or "source" from which their water is taken... "for 15 miles above the point from which it is taken and for a distance of 300 feet on each side of such stream..." Section 10-8-15 includes ground-water sources.

(4) Zoning ordinances are an effective means to control potential contamination sources that may want to move into protection areas. They allow PWSs to prohibit facilities that would discharge contaminants directly to ground water. They also allow PWSs to review plans from potential contamination sources to ensure there will be adequate spill protection and waste disposal procedures, etc. If zoning ordinances are not used, PWSs must establish a plan to contact potential contamination sources individually as they move into protection areas, identify and assess their controls, and plan land management strategies if they are not adequately controlled.